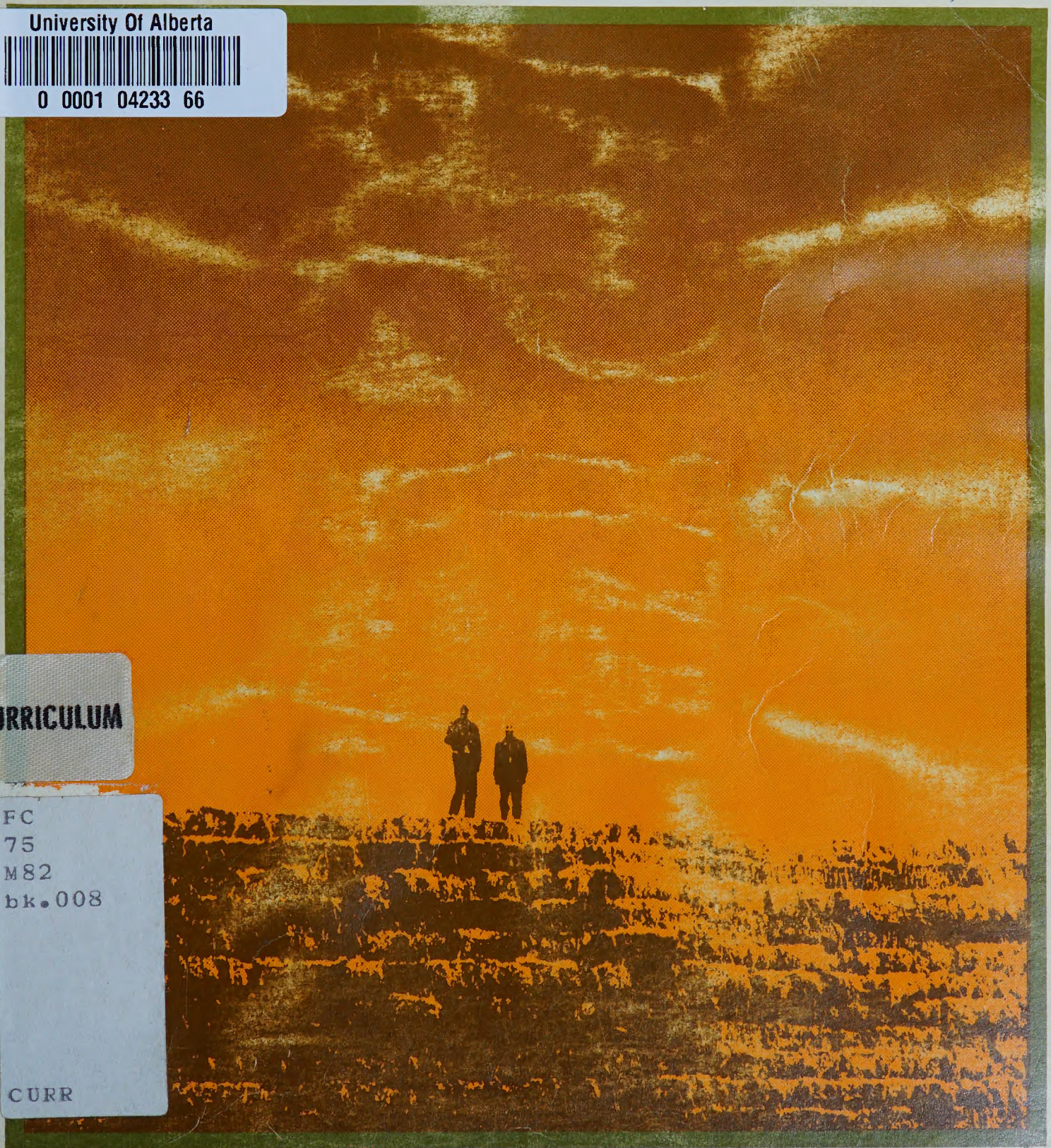
author
Gary de Leeuw

general editor
Evelyn Moore

Manitoba lowlands

A mixed farm



University Of Alberta
0 0001 04233 66

URRICULUM

FC
75
M82
bk.008

CURR

Ex libris
universitatis
albertaensis

Here is your examination copy of

MANITOBA LOWLANDS 1.10

sent for your consideration
with the compliments of

HOLT, RINEHART AND WINSTON
OF CANADA LIMITED
TORONTO 18 ONT.

Manitoba lowlands

A sample study of life on a mixed farm
An inductive approach

author
Gary de Leeuw

general editor
Evelyn Moore

Holt, Rinehart and Winston
of Canada, Limited

Toronto : Montreal

AUTHOR:

Gary de Leeuw,
Faculty of Education,
University of Calgary,
Calgary, Alberta.

GENERAL EDITOR:

Evelyn Moore,
Faculty of Education,
University of Calgary,
Calgary, Alberta.

Original Photographs:
A. E. Edinga, Edmonton, Alberta
Ralph G. Campbell (back cover)

Cover design: Ralph G. Campbell

Copyright © 1967
HOLT, RINEHART AND WINSTON OF CANADA LIMITED
All rights reserved

Printed in Canada

LIBRARY OF THE UNIVERSITY
OF ALBERTA

2 3 4 5 71 70 69 68

Ed. Curr. Lab.

Table of Contents

Unit I—Meet the Thiessen Children 1

Unit II—The Thiessen Farmstead and its Surroundings 7

Unit III—What Work is Done on the Thiessen Farm? 15

Unit IV—Life in the Thiessen Home 39

Unit V—Putting Our Ideas Together 43

887146

UNIT I: MEET THE THIESSEN CHILDREN

Meet Donald, Gerald, Eleanor and Dennis Thiessen. They live in the Province of Manitoba, Canada. As you read this book, you will find out a great deal about the children and their parents. You will also find out that you will be expected to do more than read words. This book tells a story with pictures, maps and charts as well as with words.

You can start "reading" right now by studying some of the pictures in this chapter. Along with maps and charts, we call these pictures *sources*. What is the "source" of a river? Yes, it is the place from which the water of the river starts to flow. So, why do you think we call a picture or chart a source? Yes, we can make some facts come out from a picture if we ask questions. Try to answer the following questions.

QUESTIONS:

Study figure 2 to find the answers to these questions.

(1) How old do you think the children are? (The picture shows, from left to right, Donald, Gerald, Eleanor and Dennis.)

(2) What sports might Gerald and Dennis enjoy?

(3) Donald is dressed for work. What sort of work might he do?

FIGURE 1.

FIGURE 2.

Now turn to figure 2(a). This picture was taken in the Thiessen yard.

(1) What kind of machine is Eleanor sitting on?

(2) What is Dennis sitting on?

(3) What is Donald doing?

(4) What do you think the building behind the boys is used for?

(5) What words would you use to describe the building?

(6) How might Mr. Thiessen earn a living? (List the reasons for your answer.)

FIGURE 2(a).

FIGURE 3.

4 / *Meeting the Thiessen Children*

To answer these questions, study figure 3.

(1) What are Gerald and Dennis doing?

(2) Why do you suppose the yard is fenced?

(3) How would you describe the ground between the children and the building in the left background? What could have caused the ground to be this way?

Summary

The Thiessens live on a farm. Donald is fourteen years old, Gerald is seven, Eleanor is eight and Dennis is twelve. Since Donald is the eldest, he has the most work to do. He is dressed for his farm chores in the pictures that you have just studied.

This information should answer some of the questions that you were asked. Were your answers correct?

Some of the questions asked were not answered. You will find answers to them when you study the sources that follow, but do not try to give answers to them right now.

Here are a few other questions that you can consider as you study the sources that follow:

(1) What is Donald lifting in the picture in figure 2(a)? What is it used for?

(2) Why is it being stored in the building?

(3) Why has it been made into box-like shapes?

(4) What sort of farm is the Thiessen farm?

Where is the Thiessen farm located?

QUESTIONS:

To find the position of a farm or of a town, one must look at a map. Look carefully at the map of Canada and answer the following questions.

(1) What are the dotted lines around the Province of Manitoba called? Why do you think the southern boundary is shown by a different kind of line?

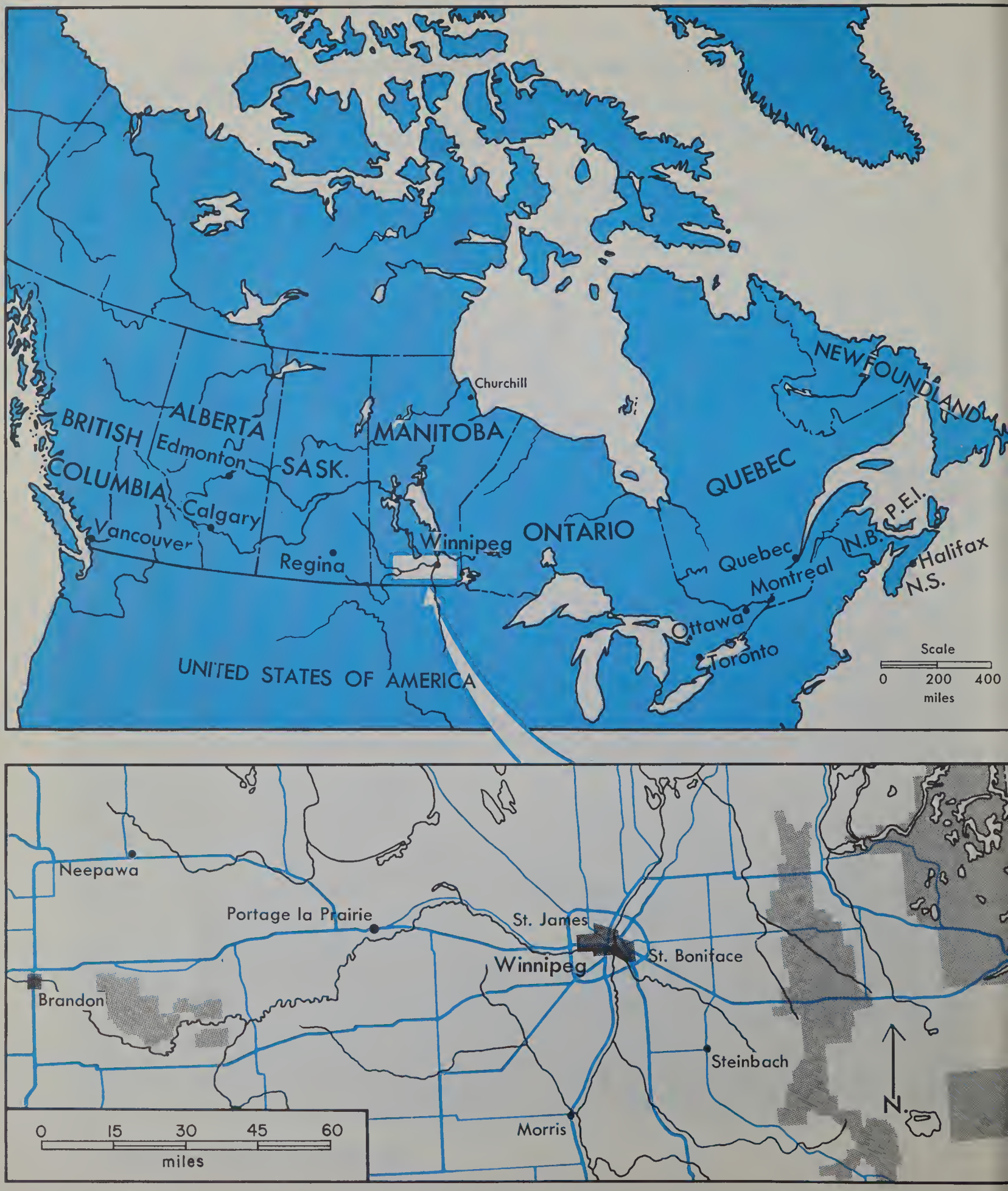
(2) What is the name of the province to the east? To the west? What lies to the north of Manitoba?

(3) Which ocean is nearest? (Check this on a globe.) Which large lake is nearest to Winnipeg?

(4) Can you find Steinbach? In which direction is it located from Winnipeg? Yes, it is on the second map. Why has the map maker not shown Steinbach on the map of Canada?

(5) Now look at the scale on the second map. Find out the approximate distance by road or "as the crow flies" of Steinbach from Winnipeg, from Morris, from Brandon, from Portage la Prairie and from Churchill. Which place is farthest from Steinbach?

Now that you know where Steinbach is, it will not be difficult to find the way on a map to the Thiessen farm, because it is near this town. But before we leave for the farm, tell us what direction you would travel to go from your school to Steinbach.


BRITISH COLUMBIA
ALBERTA
Edmonton
SASK.
Calgary
Vancouver
Regina
MANITOBA
Churchill
Winnipeg
ONTARIO
QUEBEC
NEWFOUNDLAND
P.E.I.
N.B.
Quebec
Montreal
Halifax
N.S.
Ottawa
Toronto
UNITED STATES OF AMERICA
Scale
0 200 400
miles
Neepawa
Portage la Prairie
St. James
St. Boniface
Winnipeg
Brandon
Steinbach
Morris
N.
0 15 30 45 60
miles

UNIT II: THE THIESSEN FARMSTEAD AND ITS SURROUNDINGS

Figure 4 shows the Thiessen farmstead as the children see it when returning from school in Steinbach. The photograph was taken on the spot marked by an A on the map. The photographer was pointing his camera toward the north when he took this picture.

QUESTIONS:

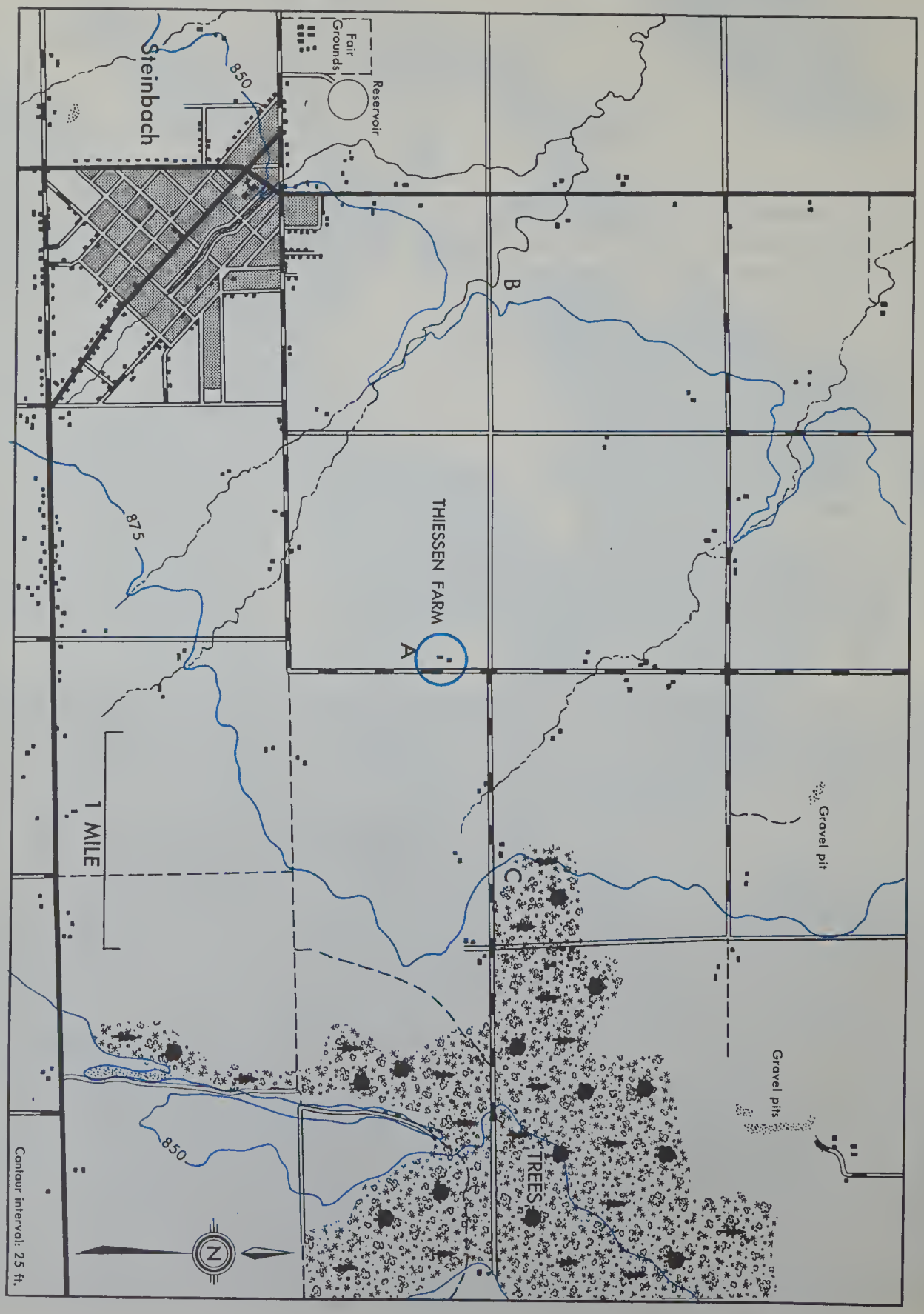
(1) How many buildings can you see in the photograph of the Thiessen farmstead?

(2) How would you describe the shape of the surface of the land? (Run your finger across the entire picture. Describe the appearance of the land in general.)

(3) The shiny substance to the left of the road is water.
   a) What sort of weather probably happened here very recently?
   b) Why has the water stayed on the surface of the ground?

(4) Do you think it would be possible for Mr. Thiessen to drive a tractor

FIGURE 4.


Steinbach
Fair Grounds
Reservoir
850
875
B
THIESSEN FARM
A
1 MILE
Gravel pit
C
Gravel pits
TREES
850
Contour interval: 25 ft.
N

across all the land in the left centre-ground? Why or why not?

(5) Would it be difficult for a tractor to pull cultivating machines across this land when it is dry? Why?

(6) What plants cover the land?

(7) Would you suppose that the trees near the buildings were planted by Mr. Thiessen? Explain your answer.

(8) If the trees were planted, what purpose would they serve?

(9) The road that runs along the right of the picture is best described in which of the following ways?

a) a rough dirt trail
b) a gravelled road
c) a footpath
d) a paved highway

Now turn to the map and answer the following questions.

(1) About how far must the children travel to attend school in Steinbach?

(2) Men have measured the height of most of the land in the world. To show these heights on a map, we use lines called contour lines. On the map on page 8, how far apart are the contour lines marked by B and C?

(3) How much does the land rise from point B to point C?

(4) Where on the map does the land rise most steeply?

(5) On what part of the map are most of the trees found?

(6) Where on the map are the gravel pits located?

(7) Why do you suppose the treed areas have not been cleared for farming? (This may be difficult to answer. Probably you will need to make a "careful guess" or "an hypothesis." An hypothesis is an idea that must be tested out before it can be said to be true.)

Looking from the air

Figure 5 shows the farm buildings and most of the land owned by the Thiessen family. It was taken from an airplane and the camera was pointed to the west.

QUESTIONS:

(1) On which side of the farm is the entrance road? Give your answer using one of the directions shown on the compass.

(2) Turn back to the ground-level picture of the farm. Notice the low clump of trees near the road. Now find these trees on the second picture.

(3) Look at the second picture again. Run your finger along the road going to the north; now to the south; now keep going until you are about where the photographer stood to take the first picture. You may have to run your finger off the picture. How do you know that is about the right spot?

(4) Now suggest where the tall windbreak trees would be if the picture were large enough to show them.

(5) The blurred shapes in the left background are houses in Steinbach. In which direction was the photographer pointing his camera when he took this picture? If you would like a closer view of Steinbach, find figure 15 on page 41.

(6) What are the probable uses of some of the farm buildings? (Refer to the buildings by the numbers shown on diagram 1.)

(7) What modern conveniences might the Thiessens have on their farm? What evidence can you find to support your answer?

(8) Explain what the parallel lines on the farmland indicate. (There are many parallel lines. Do they all indicate the same things? Make a list of your hypotheses in answer to this question.)

(9) What purpose might the small field in the front of the house serve?

DIAGRAM 1.

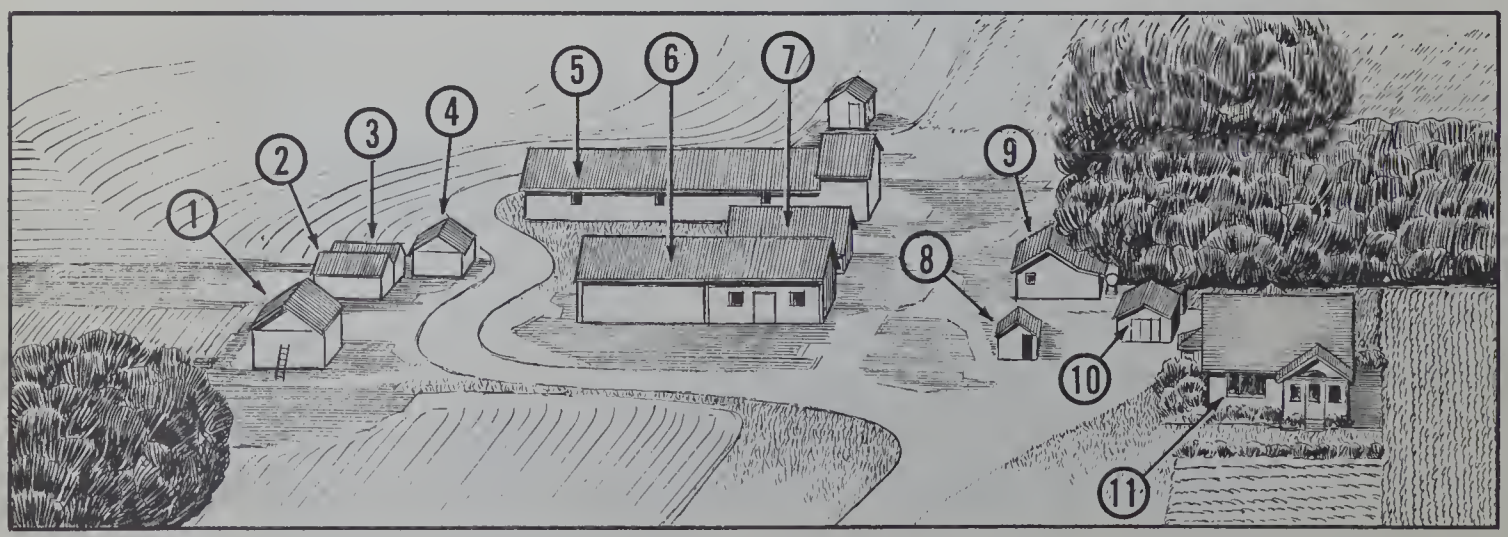


FIGURE 5.

FIGURE 6.

Figure 6 is another aerial view of the Thiessen farmstead. Comparing it with figure 5, explain why this photo shows more of the farmstead.

QUESTIONS:

(1) In which direction was the photographer pointing his camera when he took this picture?

(2) How many buildings can you see in the photograph? (Include buildings that are joined to other buildings in your total.)

(3) Which buildings shown in figure 6 were not shown in figure 5? (Place tracing paper on figure 6 and mark these buildings with an X.)

(4) Which building is most likely to be one of the oldest on the farm? Why? (You should look at figure 3 as well as figure 6 to answer this question.)

(5) Turn back to figure 3. The building in the left background of this photo is one of the oldest on the farm.

a) Was this the building that you picked in question 4?

b) What can you see in the picture that suggests that this building is quite old?

(6) Study figure 6 again. Which building or buildings are probably quite new? (Print "New Buildings" beside these buildings on the tracing paper.)

(7) If Mr. Thiessen *can* build new buildings and *needs* to build new buildings, what might this tell you about the farm. You could discuss this in class.

Using both figure 5 and figure 6, answer the following questions.

(1) Compare the Thiessen farmyard with the home yard of a city family. (If you live in the city, use your own yard in this comparison.)

a) Which yard would have more buildings? Why?

b) Which yard would have the larger open spaces? Why?

c) Which yard would probably more often be a working place for the father of the family?

(2) Find the roads or tracks in the Thiessen farmyard. (Outline them on the overlay placed on figure 6.)

a) Why do the roads wind in and around the buildings?

b) What might the roads be used for? List as many uses as you can think of.

Summary

The home setting of the Thiessen family is very different from that of a town or city family. The farmstead has many buildings; each serves a purpose in the operation of the farm, and Mr. Thiessen works in and around these buildings during much of the year. Some of the buildings have been used for many years and others are quite new. This

shows that Mr. Thiessen has spent much time and money on improving his farm. It shows that people have lived on this land for many years and that they have had enough income to afford these new buildings. We don't yet know what these new buildings are for.

In some ways the life of the Thiessens is not very different from the life of city people. The farm is close to the town of Steinbach. An all-weather road makes travel fast and dependable. The Thiessens have electric power and a telephone.

The Thiessen farm is located on flat land. This is both an advantage and a disadvantage to the family. Water from rain or melting snow sometimes lies on the land for long periods of time. If it is not drained off, the farm machines can easily become "bogged down" in mud. Strong winds often blow across the flat country. The Thiessens have planted a windbreak of trees to protect the farmyard from these winds.

In dry weather the flat land is well suited to farming with machines. Mr. Thiessen is able to pull large machines across his land with a relatively small tractor.

Not all of the farmland shown on the map is equally good for farming. As you may have figured out, much of the land to the east of the Thiessen farm is not very good farming land. The soil is too sandy and rocky for the profitable growing of most crops.

You see, we have made many facts "flow" from our sources by answering questions about each one. This section has not answered *all* of the questions that you were asked. More answers will be discovered as you study the sources that follow. Be sure to consider this question as you work on the next part of this sample study: What type of farm is the Thiessen farm? (Is it a mixed farm or a specialized farm? What does Mr. Thiessen produce?)

PROJECT I: *How Do Farm Machines Help Canadian Farmers Do Work?*

a) Write to or visit farm machinery stores in order to obtain catalogues and brochures, providing information about farm machines.

b) Prepare a picture display of as many farm machines as you can find out about. List
   i) the use or function of each machine,
   ii) the number of men needed to operate the machine,
   iii) the cost of each machine (perhaps shown in terms of the number of $100.00 bicycles the money would buy.)

PROJECT II: *What Crops Do Canadian Farmers Grow?*

a) Check textbooks, reference books and government pamphlets to find crops grown in Canada.

b) Prepare a picture display showing individual plants, seeds, or fields of as many crops as you can find. Label each picture giving the name of the crop and the places where it is grown in Canada. Put a line under the provinces that usually grow the most of each crop.

UNIT III: WHAT WORK IS DONE ON THE THIESSEN FARM?

Everyone in the Thiessen family works. The boys help their father do some of the farm chores each day. Eleanor helps with the household tasks. Figures 7, 8, and 9 and diagram 2 show some of the work done on the farm.

QUESTIONS:

Figure 7 shows Mr. Thiessen at work in his new barn.

(1) What animal can you see in the picture?

(2) What is Mr. Thiessen holding?

(3) What is the object in the centre of the aisle in front of Mr. Thiessen?

(4) What seems to be carried in the object?

(5) What is the probable use of the fenced places on either side of the aisle?

(6) What is Mr. Thiessen doing?

Now turn to figure 8 and answer the following questions.

(1) What is Donald reaching for?

(2) What is the thing with wheels that Donald is standing on?

(3) Donald has placed one of the bales of straw on a long object in the right middleground. What is the small wheel on this long object for? What

FIGURE 7.

FIGURE 8.

DIAGRAM 2.

is the small object to the right of the small wheel? What is the long object used for? Do you know what it is called?

(4) What sort of work are Dennis and Donald doing?

Diagram 2 shows several workers in a field.

(1) How many workers can you see?

(2) What tool or simple machine are the workers holding?

(3) Is the machine being used in the wide spaces *between the rows* of plants or *between the plants* in the rows? (How do you think the weeds were removed in the wide spaces between the rows? Look at diagram 3 to see if you were right.)

(4) So, what are the workers doing?

In figure 9 we see Mr. Thiessen at work on one of his farm machines.

(1) What machine is Mr. Thiessen working on?

(2) What part of the machine is he working on?

FIGURE 9.

(3) What sort of work is he doing?

Diagram 3 shows a machine being used to do work on one of the crops grown on the Thiessen farm.

(1) What machine is the man driving?

(2) What is attached to the back of the machine?

(3) What is being done to the field?

Diagram 4 shows another machine used on the farm.

(1) What machine is the man driving?

(2) Describe the machine that is being pulled.

(3) What might the machine being pulled be used for?

Now look at diagram 5.

(1) What work are the man and his machine doing?

DIAGRAM 3.

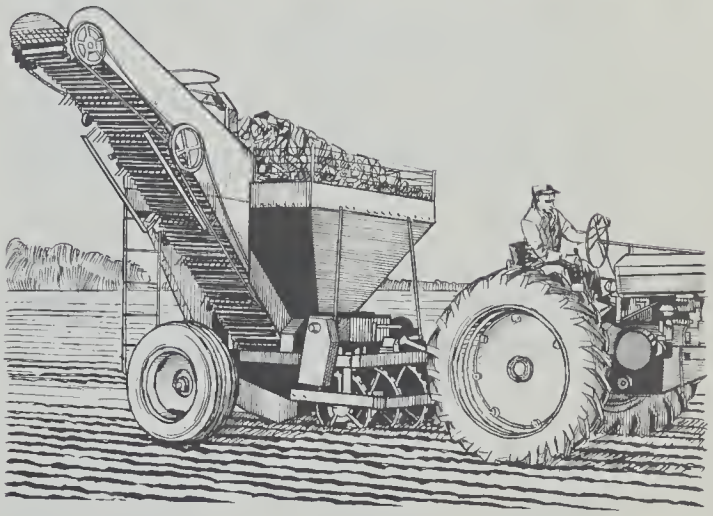
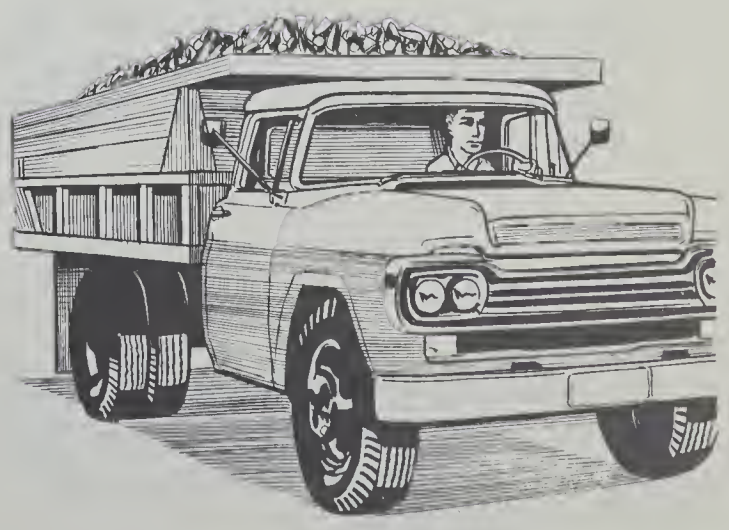


DIAGRAM 4.

DIAGRAM 5.



To answer the following questions, study all three drawings and the photographs we have seen in this chapter.

(1) All of the people shown in the pictures are using machines. (Do you know what a machine is? If you are not sure, find the meaning of "machine" in your dictionary or science book. Using *your own words*, write a definition of "machine.") How many machines are shown in the pictures?

(2) What are some ways in which machines shown in the pictures are making work easier?

(3) Explain how machines change the way in which workers use effort and time.

(4) Which of the following machines probably save more time and effort?
a) hand-powered machines?
b) motor-powered machines?

(5) Suggest why the workers shown in figures 8 and 9 are using hand-powered machines rather than motor-powered machines.

(6) Would it be an advantage for Mr. Thiessen to use motor-powered machines to do all of his work? Explain your answer.

Summary

The members of the Thiessen family all share the farm work. The children help when they are able or when they have the time to do the work.

Some of the farm work is done by hand, some by hand-powered machines, and some by motor-powered machines.

Work on the Thiessen farm is made much easier by machines. Whenever Mr. Thiessen feeds the pigs, he uses a wheelbarrow to carry the feed. The wheelbarrow saves time because Mr. Thiessen can use it to carry a larger load of feed than he could carry without it. Because it has a wheel and long handles, it is quite easy to push. In other words, the wheelbarrow saves effort.

If a motor-powered machine were used to feed the pigs, the work would be easier to do. Why isn't a motor-powered machine used? The answer is that feeding the pigs is not difficult work and does not take much time. Such a machine would be very expensive to buy. Mr. Thiessen believes that the cost would be too high for the amount of work that would be done.

The Thiessens grow sugar beets. Workers use tools in order to cultivate the soil in the narrow spaces between the plants in each row. Diagram 2 shows many workers using hoes for this purpose. The hoe is a simple machine. It enables the workers to remain standing while striking the soil. Hoes must be used on Mr. Thiessen's sugar beet crops because Mr. Thiessen does not have a motor-powered machine to thin the sugar beet rows or cultivate between each plant. Machines that will do this work have recently been invented. Such machines are called sugar beet thinners. Mr. Thiessen has not bought one because he is not sure that it will do an effective job. In addition he and

his brother are not sure that they could afford to pay for such a machine at this time.

Figure 8 shows Dennis and Donald loading hay from a wagon into a shed. The hay has been made into box-like shapes called *bales*. Donald is about to place a bale on a hay loader. A small motor on the side of the loader powers a belt that moves the bales of hay up from the wagon to the top of a pile of bales. Dennis and Donald must lift the bale onto the loader. The loader does the rest of the lifting and does it faster than the boys could do it.

Mr. Thiessen is shown working on the motor of his tractor in figure 9. The tractor has just been used to pull the hay wagon from the field to the shed. Time and effort have been saved. However, the tractor sometimes makes work. Mr. Thiessen must do much work to keep his tractor in good condition. Work done to care for farm equipment is called *maintenance work*.

The Thiessen tractor is used to pull many farming machines. Diag. 3 shows the tractor pulling a machine that cultivates the soil in the wide spaces between each row of sugar beets. The wheels of the tractor and the blades of the cultivator are small enough to fit into these wide spaces. One man operating the cultivator can do the same work in less time than many men using hoes to cultivate the soil.

The machine pulled by the tractor in diagram 4 is used to harvest sugar beets. The machine picks up, tops, cleans, stores and loads the sugar beets onto a truck for delivery. The truck shown in diagram 5 brings the sugar beets to market. The motor-powered machine can be operated by one man, but it would take many men to do the same work by hand. Both save Mr. Thiessen much time.

A sketch of the Thiessen farmstead

Diagram 6 shows the Thiessen farmstead. This is where the children spend most of their time. Study the map carefully. It could give you many ideas about the work done by the children and their parents.

QUESTIONS:

The Farm Animals:

(1) Study the map (diagram 6) and the list below to find information about the animals raised on the Thiessen farmstead.
   a) What animals are raised on the Thiessen farmstead?
   b) How many of each kind of animal are raised?

(2) What is sheltered in the building that might be used to feed the animals?

The Farm Work and the Farm Machines:

(1) How many machines are sheltered in the farm buildings?

(2) Study the list showing the use of the features in the Thiessen farmstead to figure out what work must be done to run the farm. List all of the farm work or chores that you can think of.

(3) Which of these farm chores might be partly or wholly done by modern machines?

USES OF FEATURES ON FARMSTEAD	
FEATURE	USE
House	Shelter for family, recreation, work, sleep area
Outdoor toilet	Abandoned
Garden	Source of vegetables (like potatoes) for family
Garage	Shelter for family automobile
Chicken Shed	Shelter and feeding area for 25 to 50 chickens
Pig Shed	Abandoned, once shelter and feeding area for 3 sows, 1 boar and up to 30 piglets
Machine Shed	Shelter for 2 to 3 farm machines
Pig Barn	Shelter — feeding area for 8 sows, 2 boars and up to 100 piglets
Cattle Barn	Shelter for hay, as well as shelter-feeding area for 11 cows and up to 8 calves
Wellhouse	Shelter for water-pumping equipment
Granaries	Storage for grains

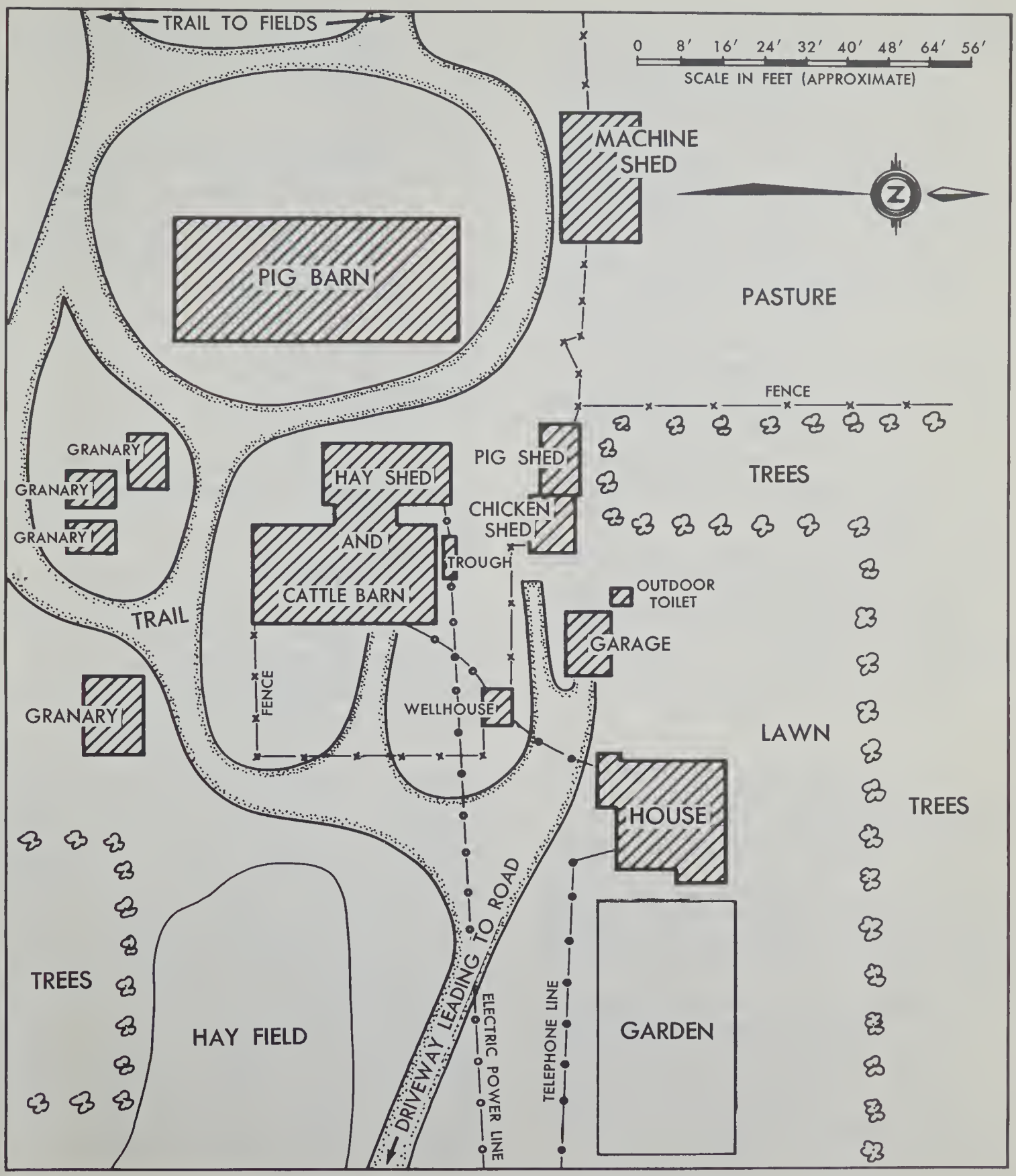


DIAGRAM 6. **LAYOUT OF THE THIESSEN FARMSTEAD**

The Plan of the Farmstead:

(1) Use your finger to trace an imaginary line around the part of the farmstead where the animals and machinery are kept. Trace another imaginary line around the area in which the Thiessen family sleeps, eats, entertains friends, parks the car and tends the garden. Call this the family yard.
Why have the animal barns been built apart from the house?

(2) Study the map to find the location of the trees on the farmstead.
   a) Beside which area (the family area or the animal area) have most of the trees been planted?
   b) What reasons would you give to explain this?

(3) Locate the buildings in which hay and grain are stored. Why have these buildings been built in this part of the farmstead?

(4) Find the machine shed. Why has it been built in this place?

Comparing the Thiessen farmstead with your home

Compare this sketch map with figure 10. Check your answers for the following questions.

(1) Compare the Thiessen farmstead with your home yard, buildings and garden. (If you live in a town or city, we will call these things your "homestead.") Do question a) or question b).
   a) If you live in a town or city, in what ways is your homestead different from the Thiessen farmstead?
   b) If you live on a farm, in what ways is your farmstead different from the Thiessen farmstead?
   c) List all the reasons that you can think of for the differences that you have listed.

Summary

The Thiessens live on a farmstead. Their farmstead is larger and has many more buildings than a city or town homestead.

The farmstead has two parts: first, a family yard in which the house, lawn, garage, windbreak, garden, wellhouse, and an abandoned outdoor toilet are located; and second, a farmyard in which animals, grain, hay and machines are sheltered.

The farmstead has been built according to a plan. The family yard was built to be a pleasant living area in which the family could be far enough away from the animals or machines to avoid unpleasant smells and sounds. The trees were planted to shelter the house and yard from wind. The fence was built to prevent cattle from wandering into the family yard or onto the road.

The farmyard was planned as a convenient place in which to work. For example, the barns were built far enough from the house to avoid some of the unpleasant things mentioned above; but

close enough to the house to avoid long walks in cold weather. The machine shed was built near the fields where the machines are used. The granaries and hay shed were located between the animal barns, the road and the fields. Why is this a convenient location?

Much of the farm work is done on the farmstead. There are many tasks.

(1) Animal chores: gathering eggs, milking cows, cleaning pens, feeding, protecting from disease and caring for young of animals; storing, preparing and transporting of feeds.

(2) Machine maintenance chores: inspection, oiling, fueling, repairing, cleaning and storing of machinery.

(3) Building maintenance chores: cleaning, painting and repairing of buildings.

(4) Yard maintenance chores: repairing of fences; mowing, seeding and grading of yards; cultivating, pruning, seeding and spraying of garden or windbreaks.

Many of these jobs could be done by motor-powered machine tools. Such tools as milking machines, paint-spraying equipment, post-hole diggers, as well as motor-powered garden cultivators and lawn mowers have been invented.

But the Thiessen family cannot afford to buy or operate many of these machines. Such machines are expensive to buy and operate. For example, the Thiessens cannot afford to buy and use a milking machine because they have only a few cows. The cows produce only enough milk for the family and take only a short time to milk. Why would the Thiessens be better able to afford a milking machine if they had a large herd of cows?

The Thiessen farmstead is very different from an urban homestead. (Use your dictionary for the meaning of *urban*.) The Thiessen farmstead is the centre of all the family activities. In most urban families, the father leaves home to go to work, while Mr. Thiessen does much of his work on the farmstead.

Three words describe the kinds of work Mr. Thiessen does on the farmstead: maintaining, processing and manufacturing. Discuss the meaning of these words with your class and teacher. What are some examples of work done on the Thiessen farm that could be called processing? Maintaining? Manufacturing?

The Thiessen farmstead is also very different from many other farmsteads in Canada. Some of the reasons for these differences will be studied in the lessons that follow.

Photograph and sketch of the Thiessen farm

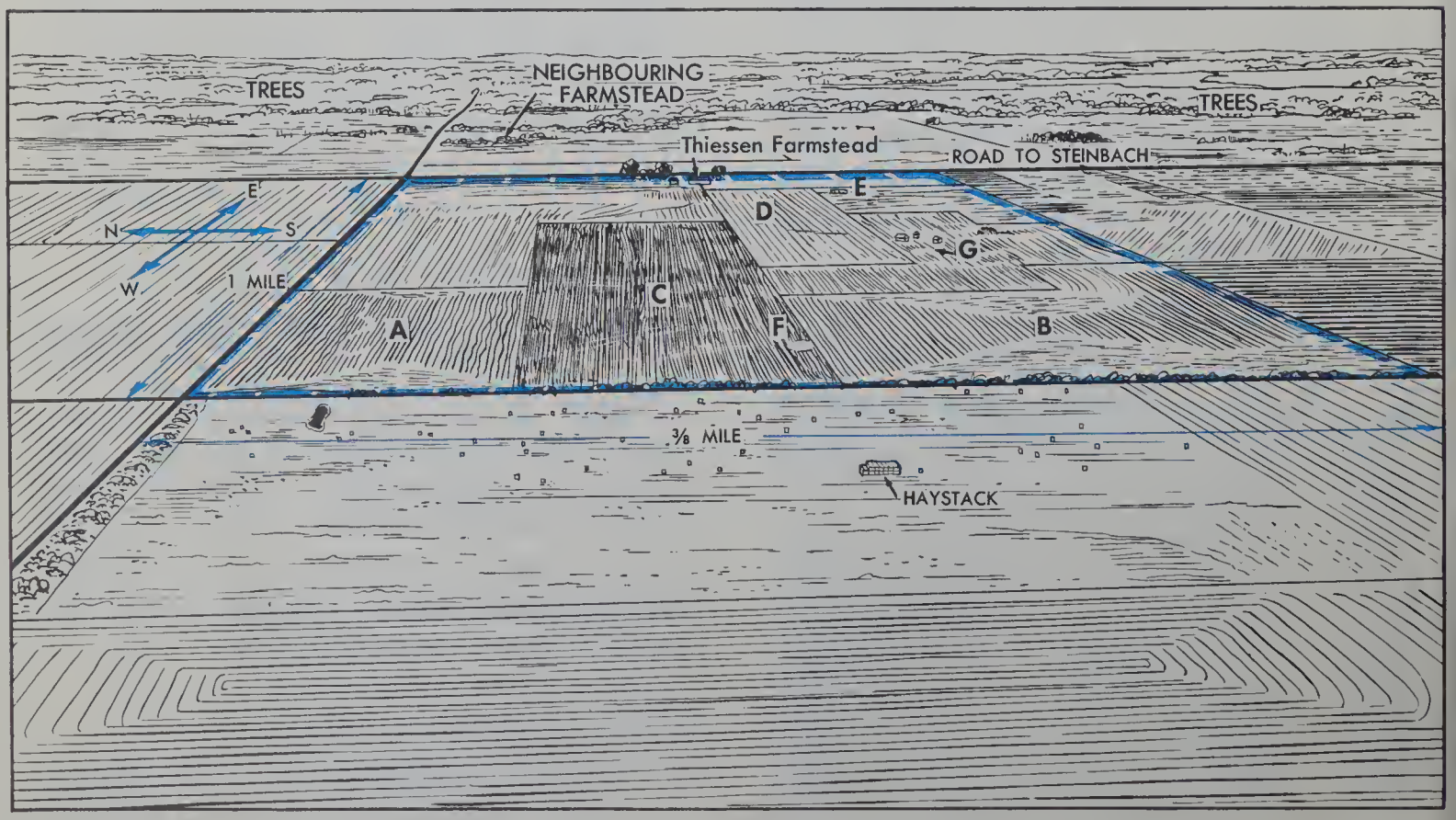
Figure 10 is a photograph that was taken from an airplane. It shows almost all of the Thiessen farm. Diagram 7 is a sketch of the same area. The dotted line on the sketch marks the edge of the Thiessen farm. Is the Thiessen farm the size that you expected it to be?

QUESTIONS:

(1) Use your finger to trace the outline of the Thiessen farm on the sketch.

FIGURE 10.

DIAGRAM 7.



Do the same with the photograph in figure 10. Study the sketch to find the length and width of the farm.

a) What is the length of the farm?

b) What is the width of the farm?

(2) The Thiessen farm is rectangular in shape, like this: ▯

a) Does the farm look like a long rectangle? Draw the shape it seems to have.

b) How would you explain why the photograph and the sketch do not show the true shape of the farm? (You may find this to be a difficult question. If you cannot write an answer, ask your teacher or classmates to suggest an answer.)

(3) How have the big lines in field A and B been made? Figure 11 shows field B up close. Study this photograph carefully before you answer this question.

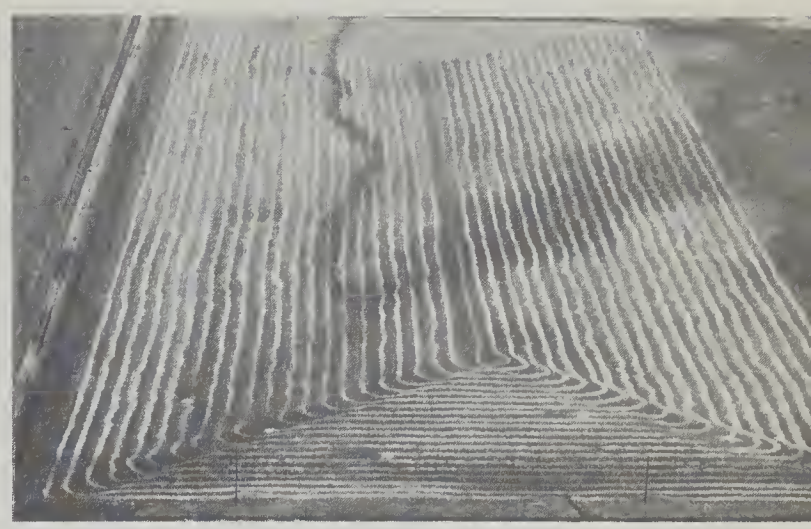


FIGURE 11.

(4) Why is field C darker than field A or field B?

(5) What is field D probably used for? Study figure 12 before you answer this question. It shows Gerald and Dennis standing on the object marked E in the sketch.

FIGURE 12.

(6) Find the place on diagram 7 marked by an F. It is a large puddle of water. Whenever it rains heavily, Mr. Thiessen has many large puddles of water on his land. The photograph and sketch in figure 13 show the place marked G. Use your finger to point to the water in the photograph.

a) Would Mr. Thiessen be able to use machines on his land after a heavy rain? Give reasons for your answer.

b) Why, would you suppose, has the water stayed on the Thiessen farm instead of running off into the ground or streams?

(7) What might the abandoned buildings indicate concerning where or how Mr. Thiessen obtained some of his land?

Land-use maps of the Thiessen farm

The diagrams on the next page show the way in which Mr. Thiessen used his land in 1965 and again in 1966.

QUESTIONS:

(1) What crops did the Thiessens grow in 1965?

(2) What crops did they grow in 1966?

(3) What use might Mr. Thiessen make of these crops? (Put your answer in the form of a list.)

(4) What is summer fallow? (If you live in an urban area you may have to

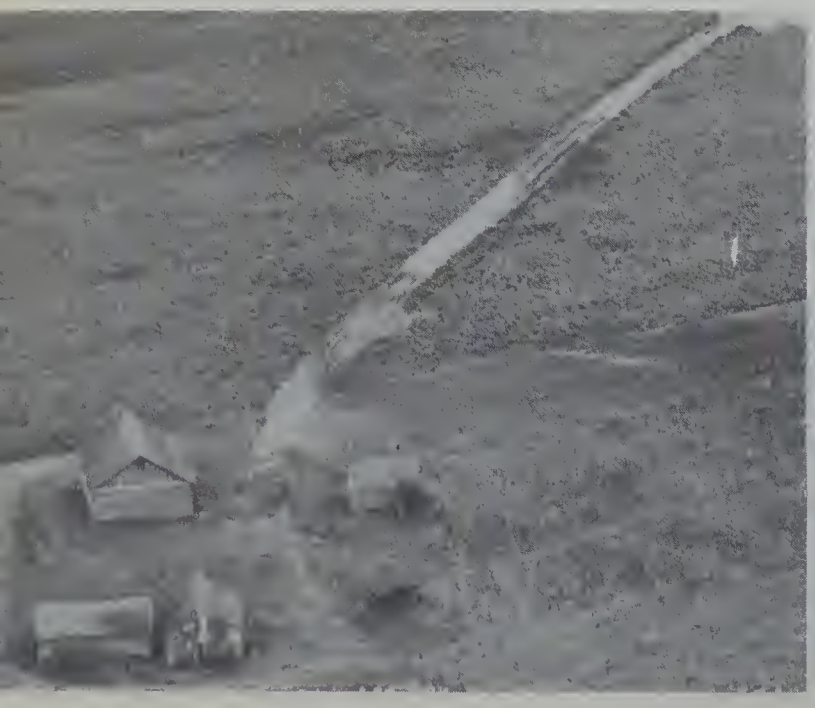
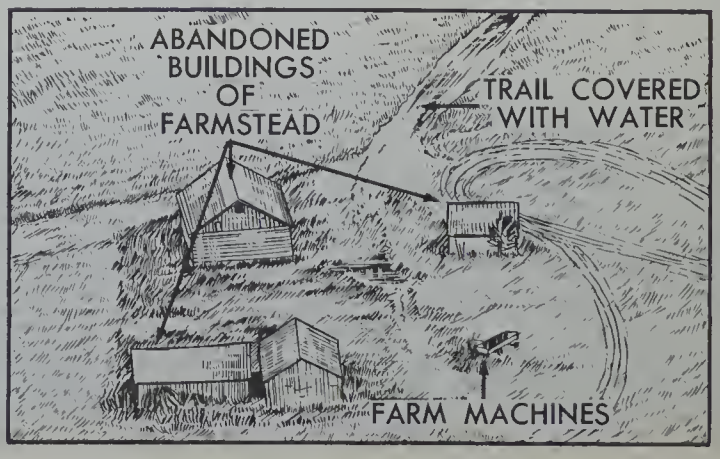
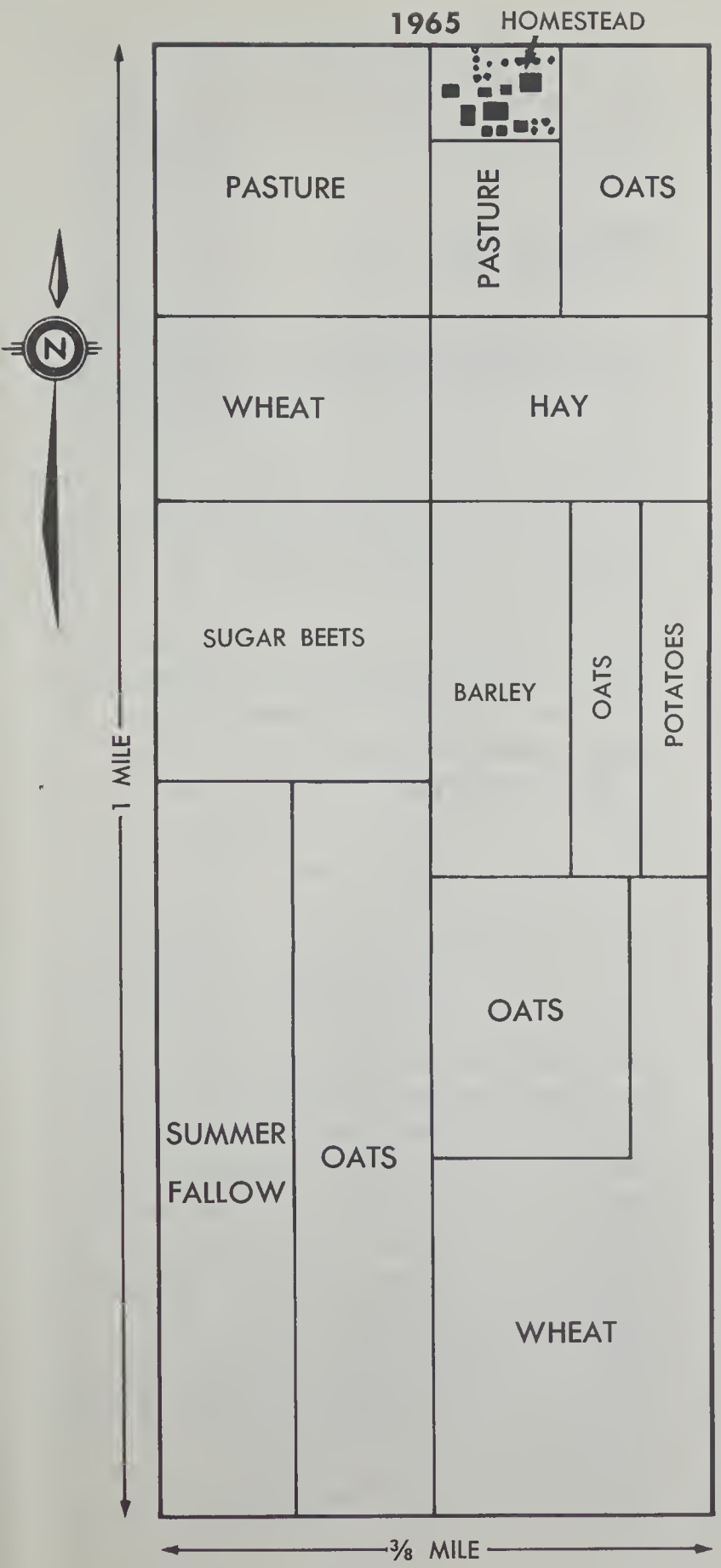
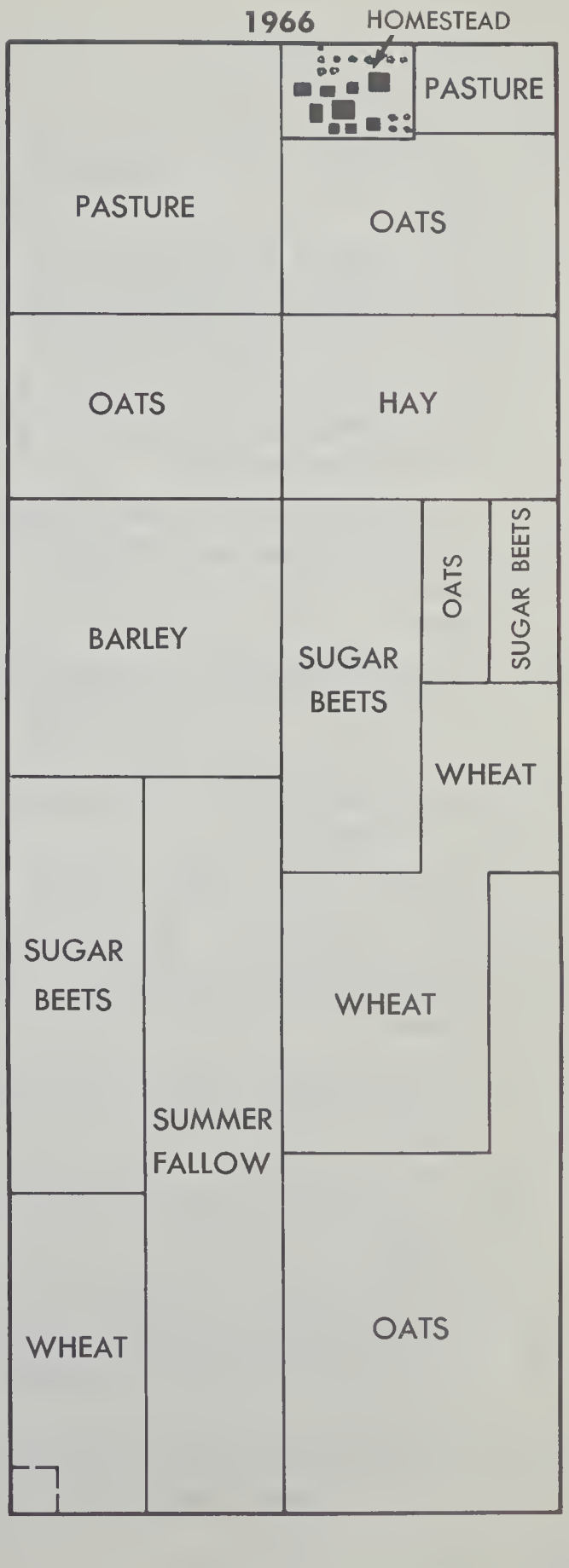


FIGURE 13.





LAND USE ON THE THIESSEN FARM IN 1965



LAND USE ON THE THIESSEN FARM IN 1966

look in an encyclopedia in order to answer this question.)

(5) In what ways was the land use in 1965 different from the land use in 1966?

(6) What reasons would you give to explain why Mr. Thiessen changed his land use from 1965 to 1966?

Using the land-use maps, together with any previous drawings and photos, answer the following questions.

(1) Would it be possible for Mr. Thiessen to feed his animals without his farmland? Give reasons for your answer.

(2) What goods might Mr. Thiessen keep for use on his farm? Give reasons for your answer.

(3) What goods might Mr. Thiessen sell to make money?

(4) There are many different kinds of farms in Canada. The list below describes four kinds. Which kind is the Thiessen farm most likely to be? Why?

a) Dairy Farms: most of the farm money is made from the sale of milk.

b) Cattle Farms: most of the farm money is made from the sale of cattle.

c) Mixed Farms: no single product provides most of the farm money. Usually both crops and animals are sold.

d) Poultry Farms: most of the farm money comes from the sale of chickens, turkeys, geese or ducks as well as chicken eggs.

Summary

The person who wrote this book asked the Thiessen family some of the questions that you have just tried to answer. Read the interview below to find out if your answers were the same as Mr. Thiessen's.

Question: Why did you change the way in which you used your land from 1965 to 1966?

Mr. Thiessen's Answer: Let me see if I can explain. That isn't an easy question to answer. Perhaps it is best to tell you about my soil first of all.

My crops need rich soil in which to grow—

Question: Excuse me. What do you mean by rich soil?

Mr. Thiessen's Answer: Mainly, rich soil is soil that has plenty of plant food in it. If I am not careful, I can use my land badly and take the plant food out of it without putting it back. This wouldn't be hard to do because most of the crops that I grow take a lot of plant food out of the soil. Besides, the part of my soil that has plant food in it is pretty thin.

Question: Could you draw a picture to help show us what you mean?

Mr. Thiessen's Answer: Fine. The soil on much of my farm looks like this when you dig into it with a shovel.

[See drawing top of next page.]

The top six inches of my soil is dark grey. This is the part that has the most plant food in it. It is a mixture of fine sand and dark plant food materials. This is the best part of my soil.

Below this is about two feet of light grey soil. This is very sandy and has less plant food in it.

Below the light grey soil is pale yellow or brown sand. It has very little plant food in it.

As you can see, the part of my soil that has the most plant food in it is the top six inches. If I grow one crop on the same piece of land for many years, this crop will take the same plant foods out of the topsoil each year, and the best part of my soil will be ruined.

I avoid ruining my soil by changing the crops that I grow on each piece of land, and by putting plant foods back into the land.

Question: I don't fully understand why or how you change the crops that you grow on each piece of land.

Mr. Thiessen's Answer: Here is an example. Wheat is very hard on my soil. If I grew nothing but wheat year after year, I would find it very difficult and expensive to put enough plant food back into the land. For this reason, I only plant wheat on my land every four to five years. In the years that I do not plant wheat, I grow other crops that take some foods that are different from the ones that wheat needs. I also work hard to put plant food back.

Question: How do you put plant food back into the land?

Mr. Thiessen's Answer: This is an expensive job. Farmers buy bags of dust, pellets, or sometimes tanks of liquid that have plant food in them. These are called *fertilizers*. I use a machine to work the pellet fertilizers into the soil. Each fertilizer mixes with the soil and replaces the plant foods that my crops have taken out. I have tried many kinds of fertilizers. It seems to me that I have found some pretty good ones in the last few years.

Question: Do you use manure to put plant food back into your soil?

Mr. Thiessen's Answer: I forgot to talk about that. Yes, I spread manure over much of my crop land. It is a good fertilizer, but it doesn't replace all of the plant food. Besides, my livestock don't produce enough of it.

Some people plough in their pastures every few years, but I don't plow pasture land back into the ground to provide plant food. I don't have enough land to afford to do that. Also, I like to keep my pastures in the same place. I think that it is handy to have them where they are.

Question: You have told me about how you keep plant foods in your top soil. What else do you do to protect your soil?

Mr. Thiessen's Answer: I do a few other things. I try to make sure that my soil doesn't become too fine, dry or full of weeds. If it becomes too fine or dry, it isn't as good for growing crops and it blows away too easily. If it becomes too weedy, the weeds take water and plant food away from the crops.

I try to keep the soil from becoming too fine by adding manure and by not cultivating it too often.

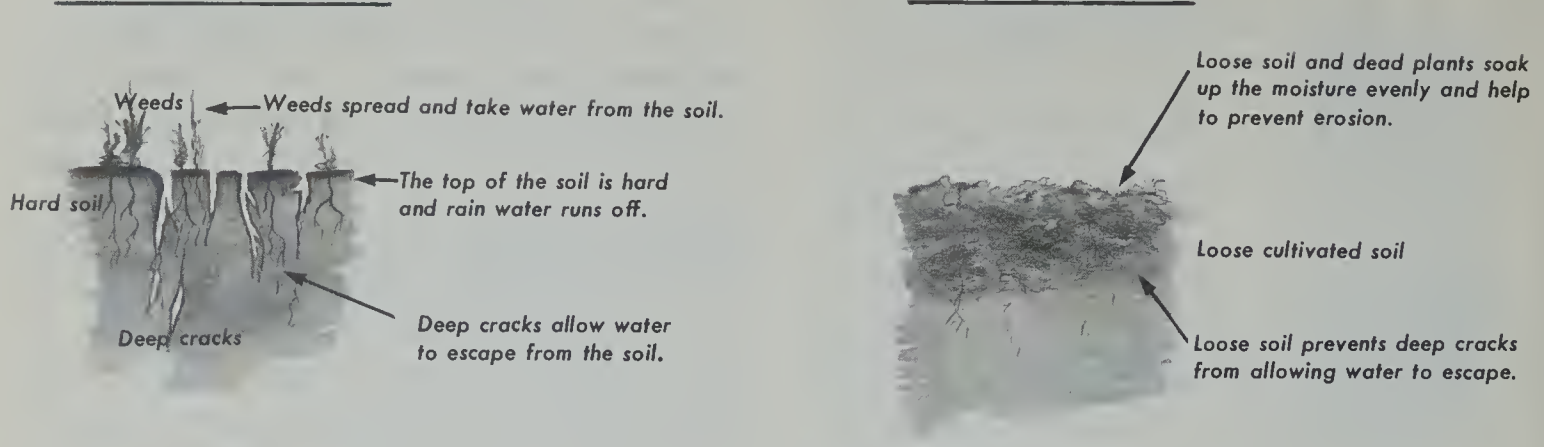

UNCULTIVATED SOIL
Weeds
Weeds spread and take water from the soil.
The top of the soil is hard and rain water runs off.
Hard soil
Deep cracks
Deep cracks allow water to escape from the soil.
CULTIVATED SOIL
Loose soil and dead plants soak up the moisture evenly and help to prevent erosion.
Loose cultivated soil
Loose soil prevents deep cracks from allowing water to escape.

DIAGRAM 10.

I try to prevent the soil from becoming too dry by cultivating the land to kill weeds that use up moisture, to prevent water from escaping, and to allow rain water to run into the soil.

Question: I don't understand. How do you prevent water from escaping? How do you help rain water to run into the soil? Can you use a diagram to explain?

Mr. Thiessen's Answer: [See Diagram 10].

Question: Which is the most important reason for cultivating the soil: to kill weeds or to keep water in the soil?

Mr. Thiessen's Answer: We usually get enough rain here to grow our crops. My main reason for cultivating the soil is to kill weeds. Weeds not only use up moisture and plant food, but they also mix with my crops at harvest time and are hard to separate. Weedy crops are worth less money. By the way, I also spray chemicals on my land to kill weeds.

Question: Do you cultivate all of your crop land in the same way every time?

Mr. Thiessen's Answer: I cultivate all of my crop land in the spring to kill weeds, prevent loss of water and prepare the land for seeding. I cultivate all of it again in the fall to kill weeds and prevent loss of water.

But, every four or five years I choose a piece of land that has a lot of weeds on it. For a whole summer I run cultivating machines over it many times. This kills the weeds, but it also means that I cannot grow a crop on that land. People call this *summer fallowing*.

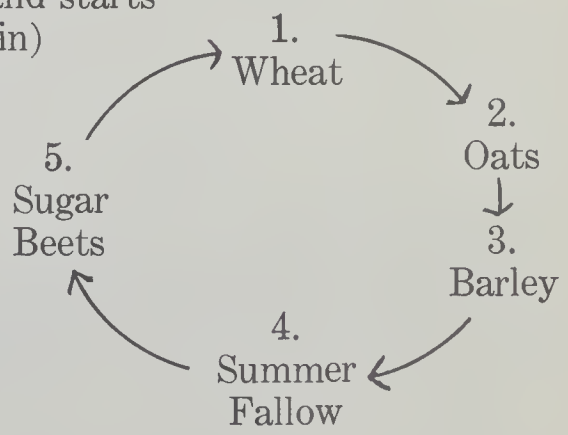
Question: Can you show me what you do with one piece of crop land for four to five years?

Mr. Thiessen's Answer:

	MY CROP ROTATION PLAN	
1st year	Wheat	Wheat is very hard on my land. It uses up a lot of plant food. I use a lot of fertilizer when I grow it.
2nd year	Oats	Not so hard on my land but I still use fertilizer.
3rd year	Barley	Same as above. More fertilizer added to the land.
4th year	Summer Fallow	In most years the land must be cleared of weeds by the fourth or fifth year.
5th year	Sugar Beets	Sugar beets must be planted on land that is clear of weeds. Special fertilizers are added.
back to wheat		

I call this my crop rotation plan because every four or five years I start over again with wheat. Mostly it's like this but sometimes I have to change because of the market. Either prices may be low for one grain or a government quota may prevent me planting as much as I planned.

(The plan turns around and starts over again)



Question: Why is fertilizing so expensive?

Mr. Thiessen's Answer: I have to pay for these expensive things: first, I have to buy the fertilizer; second, I have to buy the machines that do the job, including the gas and the repairs; and third, I use up a lot of work time. I could be using that time to make money.

Question: Is all this land conservation worth the money?

Mr. Thiessen's Answer: I think so. If I didn't take care of my land, I would soon use up the plant food, or my soil would blow away. What good would a farm be without good soil?

Summary: the machines used on the Thiessen farm

Probably you have worked out that the Thiessens must use many motor-powered machine tools. These machines help Mr. Thiessen to do his work. The drawings and descriptions in diagram 12 tell about all of the most important motor-powered machines used on the farm.

QUESTIONS:

(1) Study diagram 12 to learn what each motor-powered machine looks like. Then read to find out the work done by each machine. Make a chart like the one below. Do not list the same machine more than once.

WORK	(NAME OF MACHINE)
cuts hay crops	
breaks up soil on summer fallow	
cuts off tops and crowns of sugar beets	
cuts and presses hay or straw into bales	
kills weeds and breaks up soil in the sugar beet fields	
pulls most of the farm machines	
spreads manure over the soil	
takes pigs to market	
prepares soil for seeding	
prepares soil for seeding	
prepares soil for seeding	
cuts grain crops before combining	
seeds grain crops	
spreads poisonous chemicals on weeds	
chops up pig feed	

(2) Review the answers that you have provided for figures 7, 8, and 9 and diagram 2. What two important things do the motor-powered machines used on the Thiessen farm save Mr. Thiessen? Explain how three of the machines shown in the pictures save Mr. Thiessen these things.

(3) One important reason why Mr. Thiessen runs his farm is to make money. (This is probably not the only reason, because Mr. Thiessen could find other ways to make money.) Would you say that Mr. Thiessen's motor-powered machines help him to make money? Explain your answer.

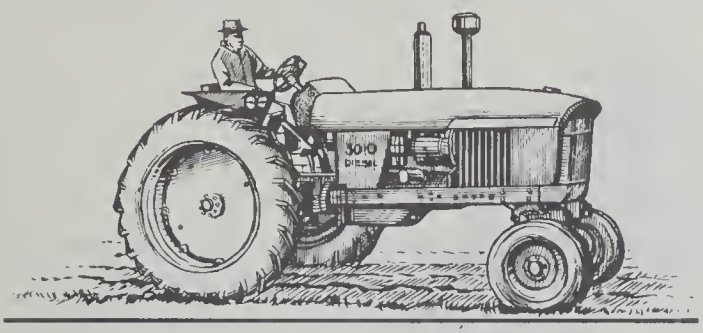
(4) Is the Thiessen farm a *mechanized* farm? Use your dictionary to find the meaning of mechanized. Discuss the answer to the question with your class and teacher.

(DIAGRAM 12.) FARM MACHINES USED ON THE THIESSEN FARM

MACHINE

(1) Those owned by Mr. Thiessen

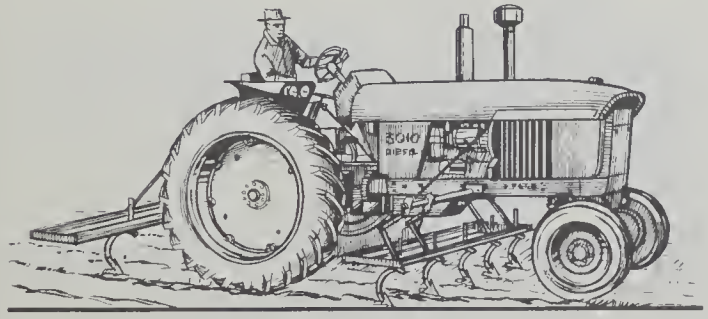
WORK DONE WITH MACHINE



a)

The *tractor* is a very useful machine. Mr. Thiessen uses it to pull such equipment as the hay rack, hay baler, cultivators, manure spreader, and the sugar beet harvester.

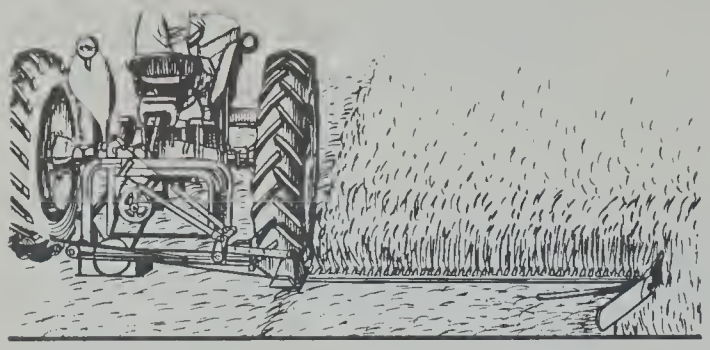
b)



Mr. Thiessen owns two *cultivators*. One is used to cultivate between the rows of sugar beets. The sugar beet cultivator breaks up the soil and removes the weeds between the rows. The cultivation is repeated several times during the growing season. The other cultivator is used to break up the soil and kill weeds in the summer fallow fields. This is also done several times in one year.

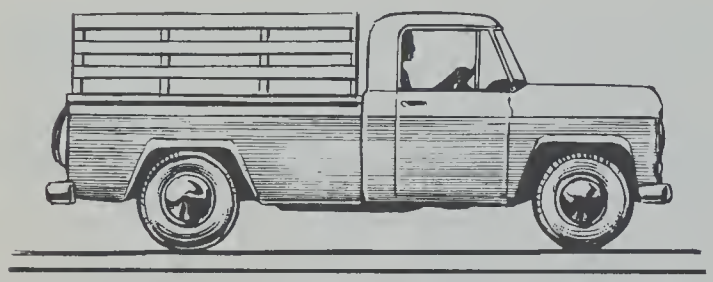
c)

The *manure spreader* is used to spread manure evenly over the soil. The machine breaks the manure into small pieces and throws them out onto the soil.



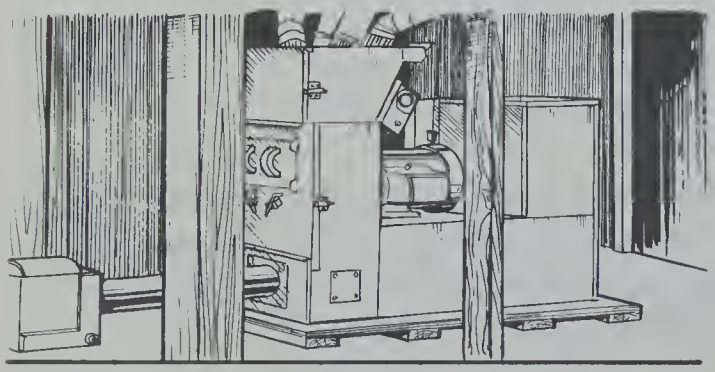
d)

The *mower* is used to cut the hay crop. It uses sharp blades that slide back and forth across one another to clip the grass off close to the ground.



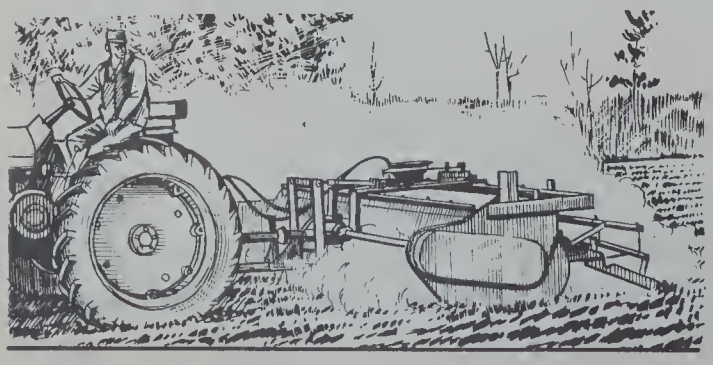
e)

The *half-ton truck*, or "pickup," is a frequently used machine. The Thiessens use it to pick up supplies in town, to carry goods about the farm and to bring pigs to market.



f)

The *mix mill* is used to chop up and mix the food that is fed to the pigs.



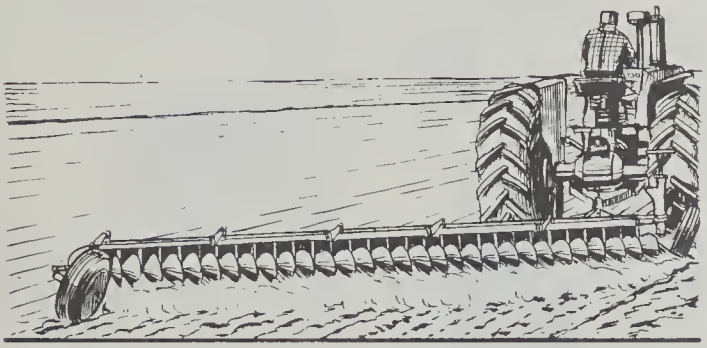
g)

The *rotobeater* and *scalper* remove the tops from the sugar beets and cut off the crowns, leaving the beets ready to be picked up by the harvester.

h)

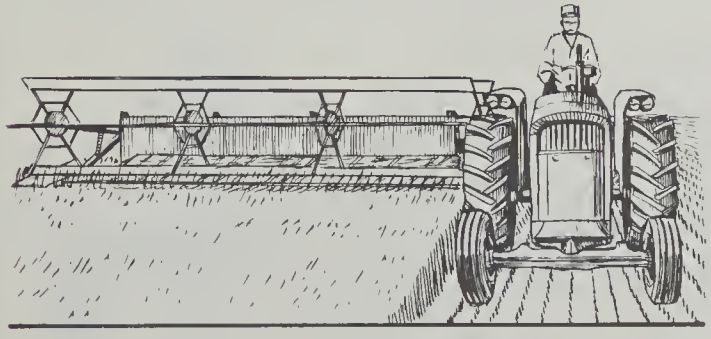
The *sugar beet harvester* digs, cleans, stores and loads the beets onto a truck for delivery.

(2) Those shared by Mr. Thiessen and his brother-in-law.



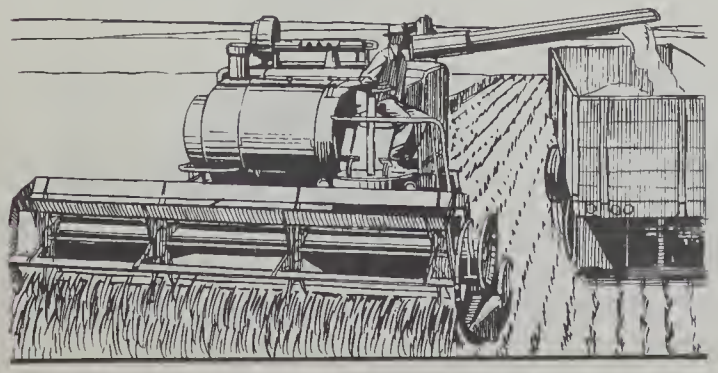
i)

The *discer* is used along with two machines not shown (harrow and deep tiller) to prepare the soil for seeding. All three machines are owned by Mr. Thiessen's brother-in-law.



j)

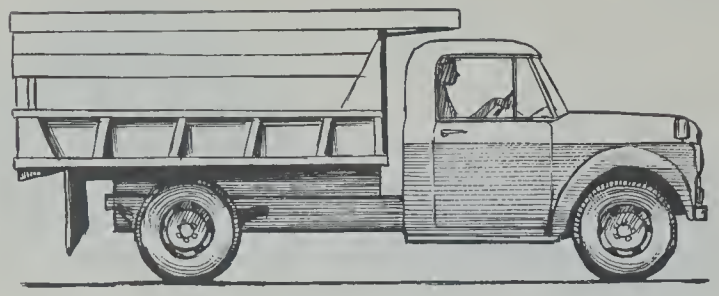
The *swather* cuts grain plants and drops them in rows called *swathes*. Swathing is done to prepare for combining of the grain crops. When the grain plants are cut and dropped in swathes, they dry out. This makes them easier to combine.



k)

The *combine-harvester* is one of the biggest and most expensive machines used by Mr. Thiessen. A combine can cut wheat, oats and barley. As the machine cuts or picks up a swathe, it takes the stem, leaves and head of the plant into itself. The machine knocks the seeds out of the heads. This is called *threshing*. The seeds are then stored in a tank until they can be loaded into a truck.

l)

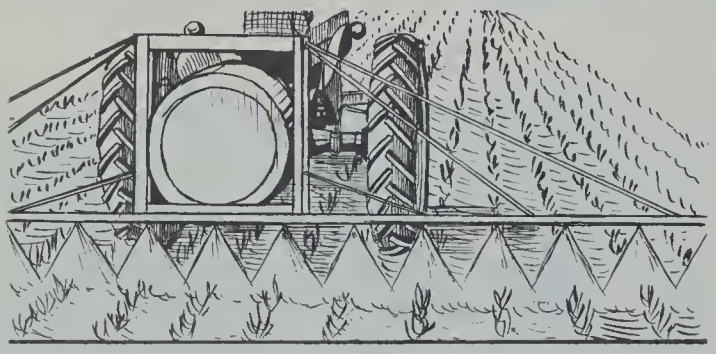


The *three-ton truck* is used for marketing big loads of goods. For example, sugar beets, grain and heavy equipment are sometimes carried in this truck.

m)

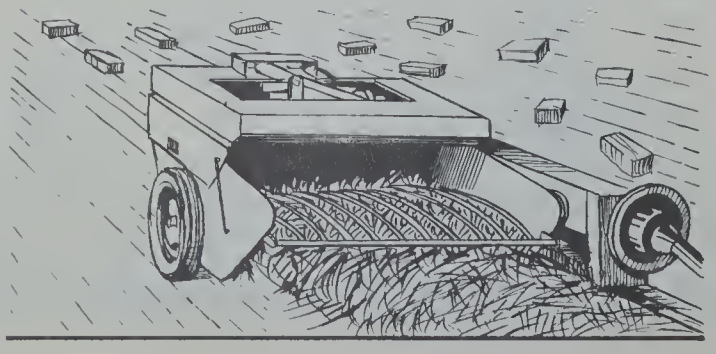
Seeding drills are used to put seeds into the soil. Beet seeds must be planted with a special precision drill which is usually called a planter.

n)



The *sprayer* is used to spread chemicals that kill weeds onto the fields.

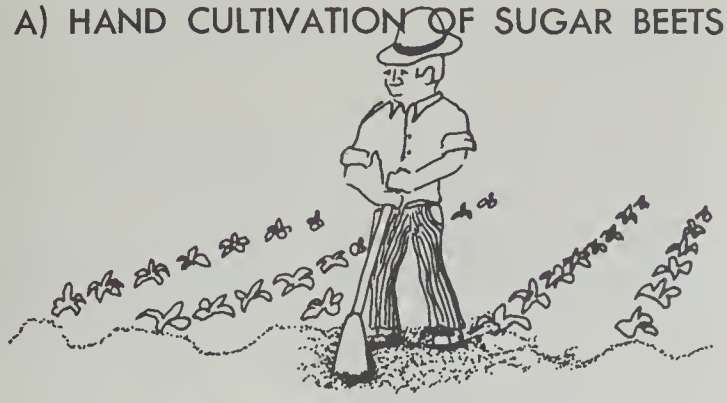
o)



The *hay baler* is used to pick up the straw from wheat, oats and barley or the stalks of mown grass. The baler presses the hay or straw into bales, or blocks, like those shown in figure 2 (a).

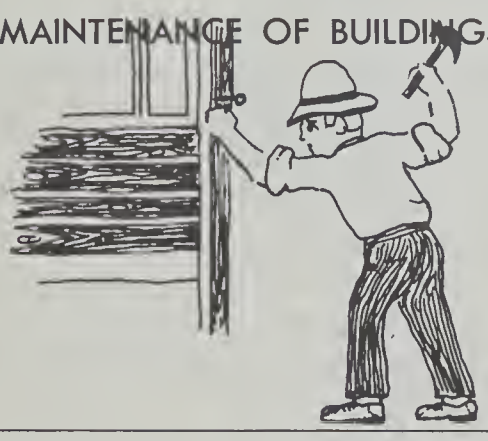
IMPORTANT HANDWORK ON THE THIESSEN FARM DIAGRAM 13.

A) HAND CULTIVATION OF SUGAR BEETS

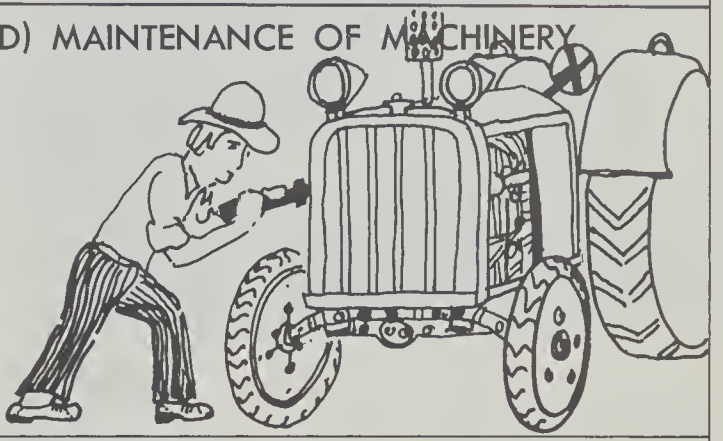


B) DRAINING OF LAND

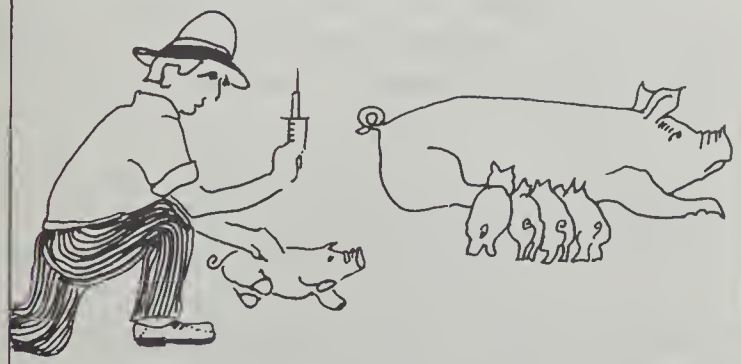
C) MAINTENANCE OF BUILDINGS



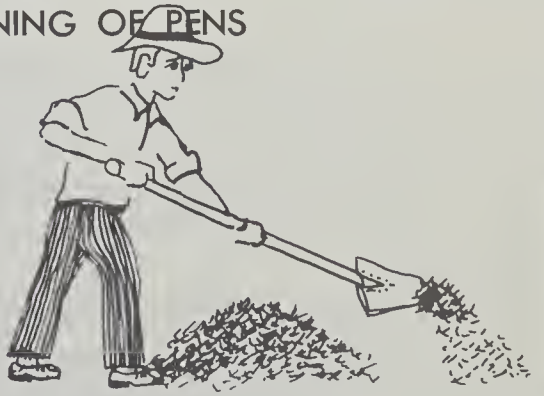
D) MAINTENANCE OF MACHINERY



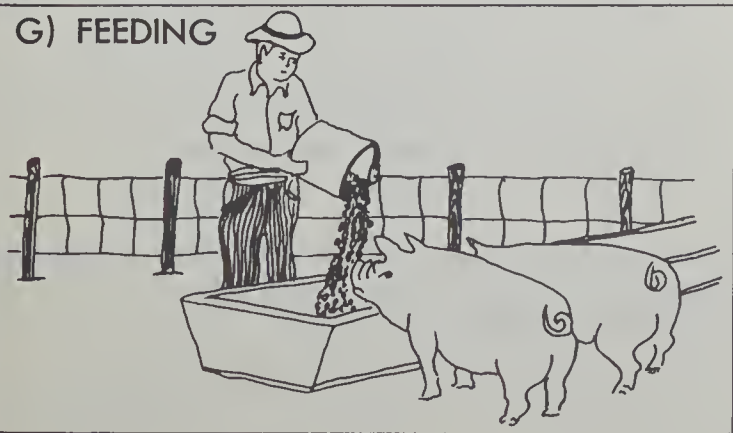
E) CARE OF YOUNG LIVESTOCK



F) CLEANING OF PENS



G) FEEDING



H) GARDENING

Not all of the work on the Thiessen farm is done by machines. Many jobs are done by hand. Diagram 13 shows some of the most important tasks that require hand work. Study the drawings as you answer the following questions.

(1) Which tasks shown in the pictures would most likely be done on the farmstead?

(2) Which jobs involve caring for the livestock?

(3) List the tools used in the jobs shown in the pictures.

Summary

The Thiessen farm is a *mechanized farm*. A great many machines are used on the farm. Much of the farm work is done by Mr. Thiessen and his sons with the help of large and powerful mechanized equipment.

Each machine saves the Thiessens time and effort. Most of the machines help the Thiessens to make more money. How do the machines do this?

The tractor is a good example of a machine that helps the Thiessens to make more money. The tractor pulls such equipment as the mower, sugar beet harvester, or discer over the land with efficiency and speed. It is a dependable machine; that is, it can usually be depended upon to run for many weeks without breaking down. Mr. Thiessen is thus able to plant, cultivate and harvest most of his crops in a short time, at the right time of the year, and without hiring many extra workers.

It is especially important that Mr. Thiessen's machines help to do the work of many workers. Farm workers have to be paid wages and are difficult to find. If Mr. Thiessen did not have his machines, he would be forced to spend a great deal of money to pay workers, and probably there would be times when he could not find workers to do a job at the time when the job had to be done.

But farm machines are very costly to buy. Are they not more expensive than the cost of workers or the cost of delays in doing farm tasks? The answer is no. Most farm machines can be used for many years and are thus less expensive than the salaries of many workers for many years. Most farm machines can be sold for good prices, even after many years of use. In addition, Mr. Thiessen could lose a great deal of money if his crops were not planted or harvested at the right time of the year. The Thiessen's farm machines help them to make greater profits.

SUGGESTION:

Turn now to page145 for two important projects.

UNIT IV: LIFE IN THE THIESSEN HOME

Mrs. Thiessen spends much of her time at work inside the family house. When Eleanor is not in school, she often helps her mother. Figure 14 shows Eleanor and Mrs. Thiessen at work.

QUESTIONS:

(1) In figure 14, what work are Eleanor and Mrs. Thiessen doing?

(2) Where is the work being done?

(3) What modern conveniences are shown in the picture?

(4) In what ways is this part of the Thiessen home the same as your home?

FIGURE 14.

Diagram 14 is a plan of the ground floor of the Thiessen house.

Study it as you answer the following questions.

(1) How many rooms are there on the ground floor of the Thiessen house? Did you count the closets?

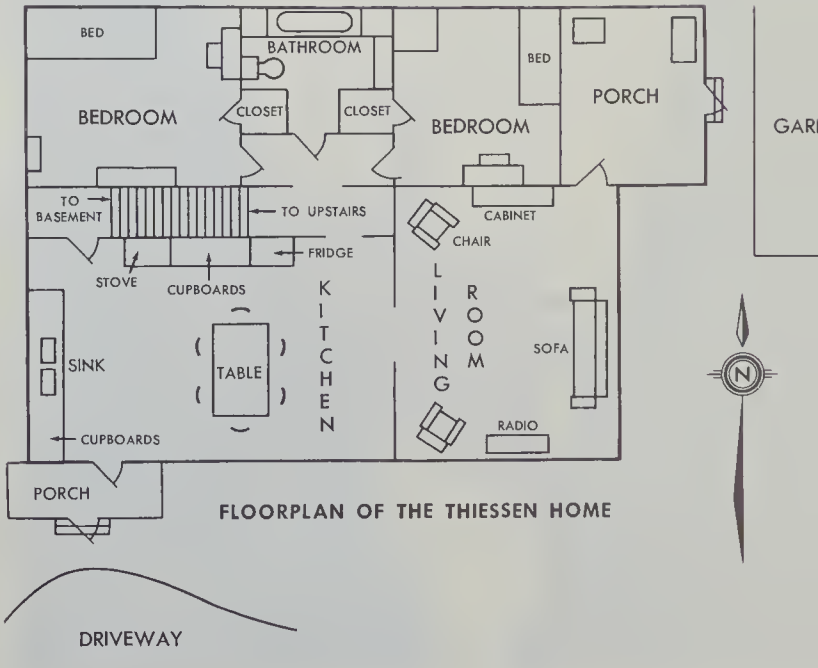
(2) What modern conveniences, other than the ones you have listed above, are found in the Thiessen house?

(3) a) Which is the largest room?

b) What reason would you give to explain why this room was made so big?

(4) What separate jobs might be done by Eleanor and Mrs. Thiessen? We can think of fifteen. How many can you list?

DIAGRAM 14.



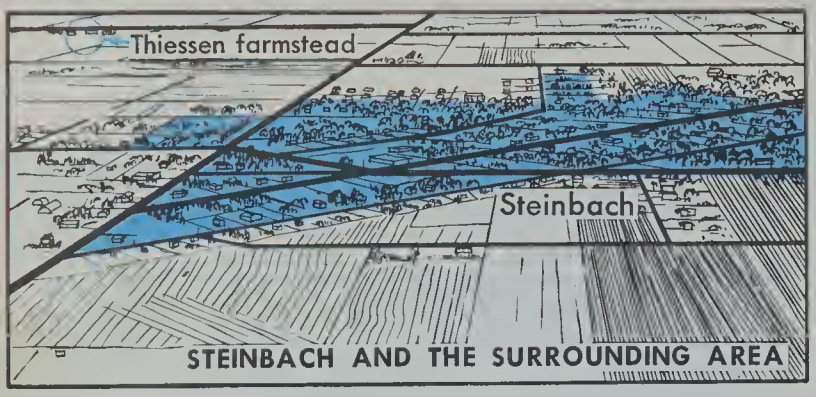
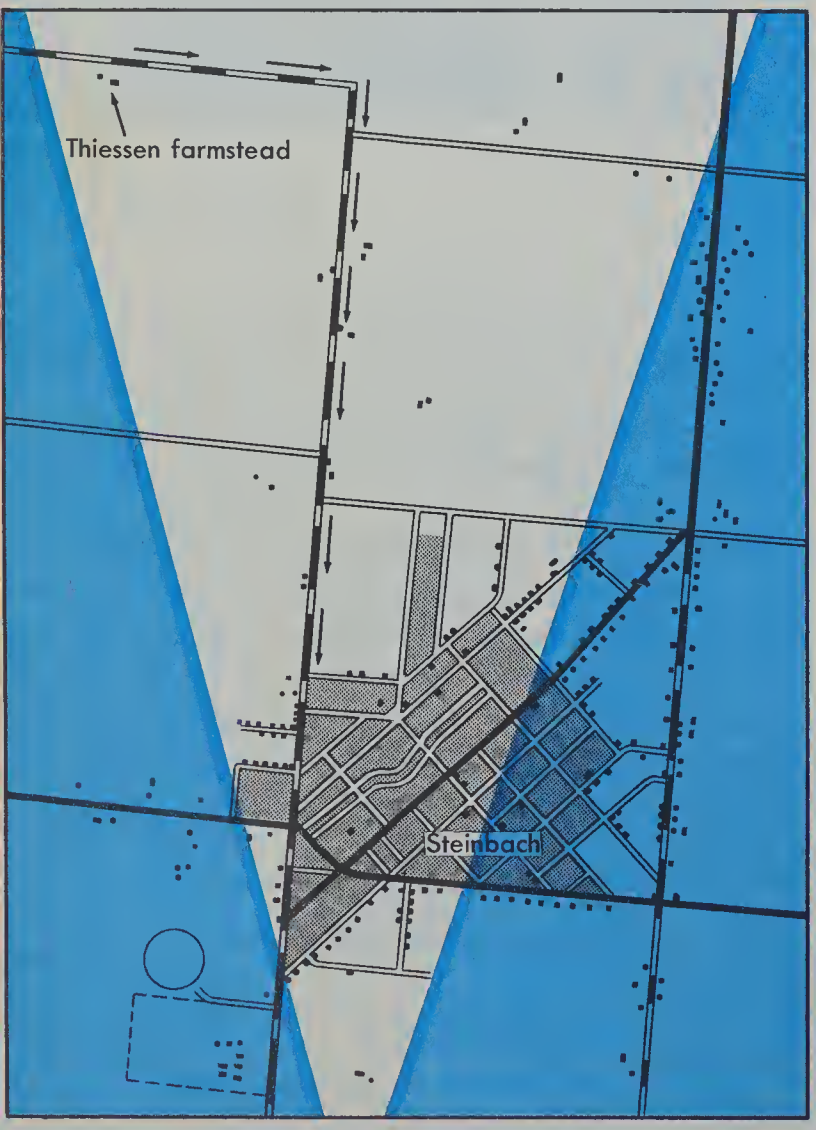


DIAGRAM 15.



(5) How is the first floor the same or different from your home? Can you list any reasons why the Thiessen home is different from yours?

Life outside the Thiessen home

Marketing

One of Mrs. Thiessen's most important tasks is to do the family marketing in Steinbach. When the shopping is done on Saturdays, Eleanor helps her mother. The map and figure 15 both show the Thiessen home, the route to the market and the town of Steinbach.

QUESTIONS:

(1) Study the map carefully. The unshaded part of the map shows the same area as the photograph. Is that surprising?

(2) Find the Thiessen farmstead on the map. Now, without looking at diagram 15, can you find the farmstead on the photograph as well? Point to the farm buildings on the photograph. Examine diagram 15 to see if you are right.

(3) The arrows on the map show the marketing route from the Thiessen farm to Steinbach. Use your finger to trace this route on the photograph.

(4) About how long might it take Mrs. Thiessen to drive from the farm to

FIGURE 15.

Steinbach on a day when she could drive at about 50 m.p.h.?

(5) Which of the following marketing places would a town the size and location of Steinbach be most likely to have? (List your choices. Be prepared to give reasons for your choice.)

a) saddle shop
b) farm machine services
c) bank
d) art supply store
e) hardware store
f) violin repair shop
g) supermarket
h) lumberyard
i) drugstore
j) veterinary services
k) hospital
l) department store
m) a clothing store

(6) In what ways might Steinbach be the same as, or different from, the town or city in which you live or shop?

(7) About what fraction of the town of Steinbach is shown on the photograph?

Marketing for Mr. Thiessen

Steinbach is also an important marketing centre for Mr. Thiessen.

(1) List at least ten items that Mr. Thiessen or the boys might need to buy in Steinbach in order to do work on the farm.

(2) Can you think of one or two items that the Thiessens might occasionally need that probably could not be bought in Steinbach? List them.

Summary

In many ways Mrs. Thiessen's life is like that of a housewife who lives in a

town or city. She prepares meals and cleans her house with most of the modern tools that city housewives use. For example, she uses such electric appliances as a stove, mixer, refrigerator and vacuum cleaner. Dishes are washed in a sink with hot running water and clothing is cleaned in a modern clothes washer.

A shopping trip to Steinbach takes only a little longer than a drive from a city home to a neighbourhood shopping centre. Even in the middle of the winter, a drive to Steinbach usually takes no longer than ten or fifteen minutes.

Steinbach offers most of the services needed by the Thiessens. Steinbach has such services as a large supermarket, drugstores, hardware stores, clothing stores, banks, lumberyards, a school and a hospital.

Mrs. Thiessen's life is different from the life of many city women in several ways. The most important difference is that she tries to make her family as self-sufficient as possible. Do you know what this means? The sentences below tell about some of the ways in which the Thiessens are self-sufficient. When you have finished reading these sentences, write a definition of self-sufficient.

Mrs. Thiessen tries to produce as many things needed by her family as she can. Mrs. Thiessen and the children produce most of the family food; she often bakes bread and pastries. Each spring she and the children plant potatoes and vegetables in the big kitchen garden. Enough chickens are kept to provide eggs and an occasional meal. Often the family raises a steer or cow for meat. The butcher in Steinbach prepares the meat. In order to have vegetables, fruit and meat the year round, Mrs. Thiessen works hard to preserve and freeze foods. A big deep-freeze in the basement is usually full of frozen foods. But the Thiessens are not completely self-sufficient. They must buy such foods as spices, flour, canned fruits, sugar, tea, coffee, and cereals that cannot be produced on the farm. Although Mrs. Thiessen sews a great deal, most family clothing must be bought in town.

Mr. Thiessen tries to be self-sufficient as well. He does much of his own maintenance and repair work, but he must buy a great many goods in Steinbach. For example, he buys machinery, spare parts, hand tools, oil, gasoline, fertilizer, weed killer, wire for fences, nails and lumber in Steinbach.

The merchants in Steinbach have most of the goods needed by Mr. Thiessen. Many of these merchants make a living by providing the services needed by farmers. Steinbach could be called a *Farm Service Centre.*

It is only when the Thiessens need something unusual, or when they see an opportunity for an especially good bargain that they buy in Winnipeg. Sometimes Mr. Thiessen needs a special tool that cannot be found in a Steinbach hardware store. Sometimes clothing, or canned goods are offered at especially low prices in Winnipeg stores. When this is the case, and when Mr. Thiessen must travel to Winnipeg to sell his pigs, the Thiessens buy goods in Winnipeg.

UNIT V: PUTTING OUR IDEAS TOGETHER

A year's work on the Thiessen farm

The work done on the farm is different from one season to the next. Diagram 16 is a chart that uses pictures and words to tell about a year's work on the Thiessen farm. The pictures are those shown in diagrams 12 and 13. Each picture is reduced in size. In order to read diagram 16, you must remember the kind of work each picture shows. Look at the drawings in diagram 16. Which pictures have you forgotten? Perhaps you will need to study diagrams 12 and 13 again.

QUESTIONS:

A. Learning to read the chart

(1) The top part of the left-hand column uses pictures and words to tell about the work that is done on the farm in January. What work is done in the month of January?

(2) The bottom part of the left-hand column tells about the average climatic conditions in south-eastern Manitoba in January.
   a) What kinds of storms are most likely to occur in January?
   b) On the average, about how many inches of precipitation occur in January?
   c) The small circles show when the sun is lowest and highest in the sky. During what month of the year would the sun's rays be the warmest? Would the sun's rays be as warm in January as in September?
   d) On the average, what temperatures would the month of January have?

(3) The columns that run across the top part of the chart use pictures and words to tell about the work that is done to care for each crop and each kind of livestock. What work is done in order to grow a crop of oats? (List the activities in the order in which they occur.)

B. Farm activities and appearance

(1) For each of the following months, describe, in two or three sentences, the general appearance of the farm. Mention, in particular, the colour of the fields.
   a) February
   b) June
   c) August
   d) September

(2) What two seasons of the year are the busiest on the farm? What activities are carried on in each of these seasons?

(3) a) For how many months during

A YEAR'S WORK ON THE

WORK	JAN.	FEB.	MAR.	APRIL	MAY	J
GROWING WHEAT					Growing	
GROWING BARLEY					Growing	
GROWING OATS						Growing
GROWING ALFALFA						Growi
GROWING SUGAR BEETS						
WORKING SUMMER FALLOW						
WORKING ON PASTURE						
RAISING CATTLE				6 to 10 calves born		
RAISING PIGS				70 to 100 pigs born		
Drainage and Maintenance						

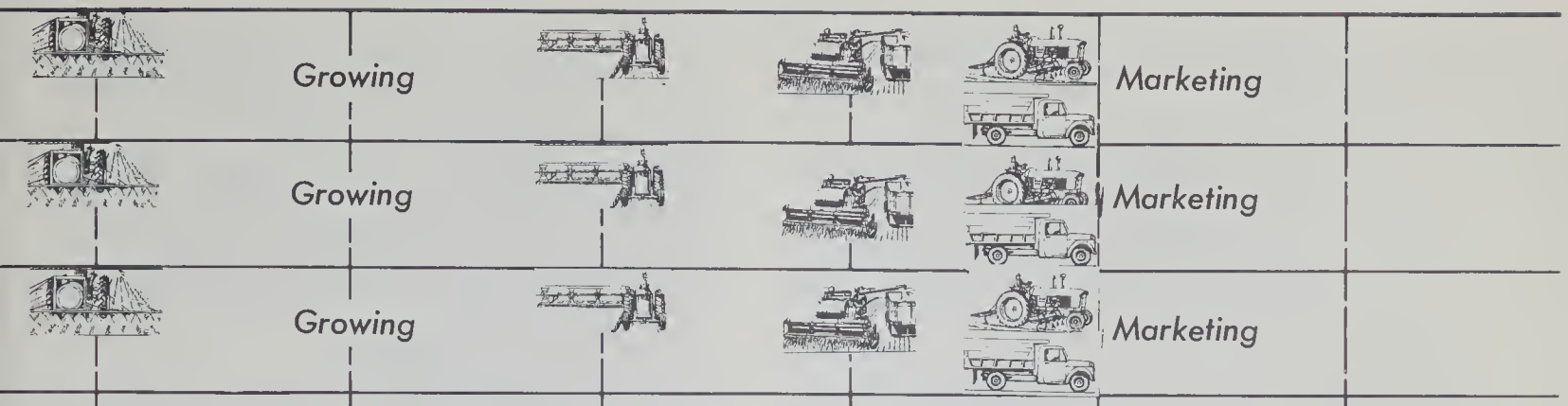
CLIMATE OF SOUTH EA

CLIMATE	JAN.	FEB.	MARCH	APRIL	MAY
STORMS	OCCASIONAL BLIZZARDS		OCCASIONAL ICE STORMS		
PRECIP. (in inches)	3 2 1				
SUN					Long
TEMP °F.	80 60 40 20 0				

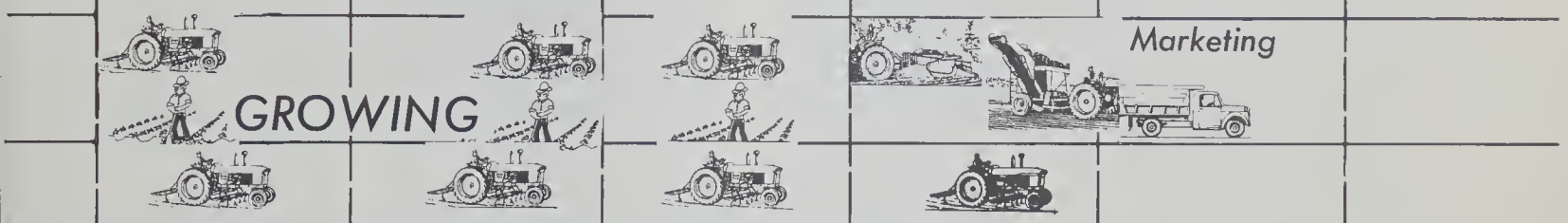
Freezing point

ESSEN FARM

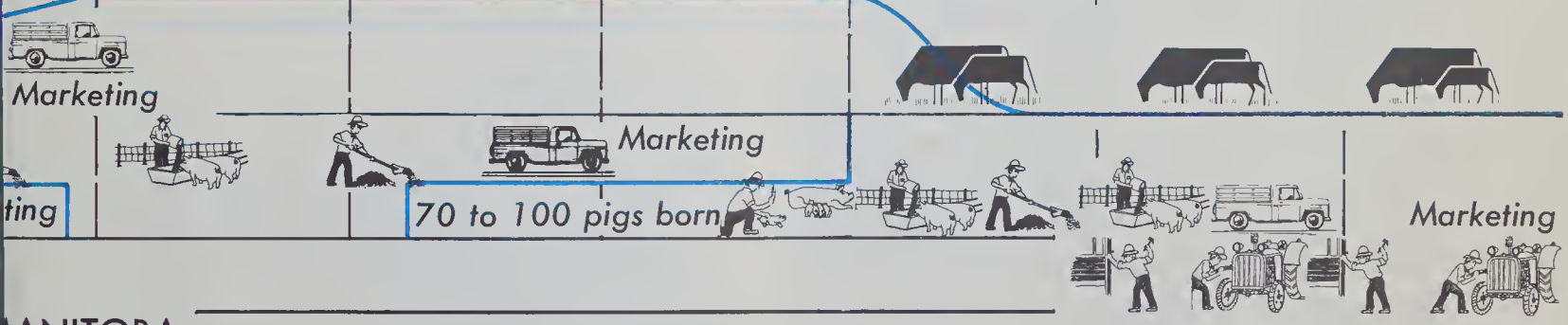
JULY AUG. SEPT. OCT. NOV. DEC.



Piling and storing



CATTLE GRAZING ON PASTURE

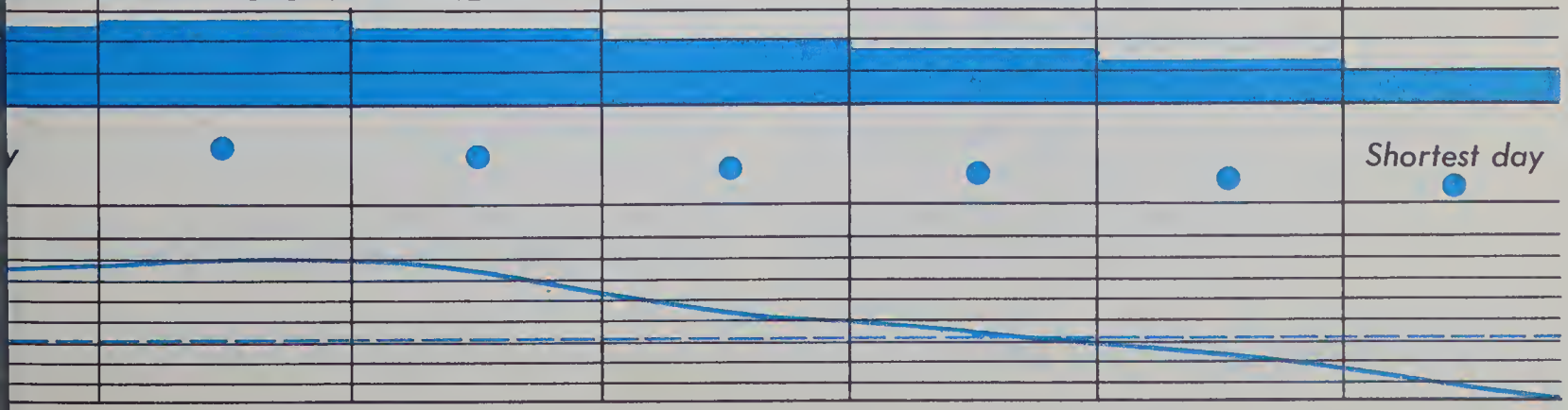


MANITOBA

JULY AUG. SEPT. OCT. NOV. DEC.

THUNDER SHOWERS
OCCASIONAL HAIL

OCCASIONAL BLIZZARDS



the year is there no activity in the fields?

b) What reasons would you list to explain why there are no activities during these months?

c) What work is done during these months that is not done at other times? Why?

(4) When would the Thiessens be most likely to take their annual holiday? (Remember that the children have their school holidays during the months of July and August.) During the time that you mention, what activities would have to be continued on the farm?

C. The climate and the crops

(1) For about how long is the average temperature above freezing? About what fraction of the year is this?

(2) The length of time that plants can grow is about the same as the length of time that the average temperature is above freezing. This is called the *growing season*. During the growing season, what storms occur that might damage the crops?

(3) Look carefully at the precipitation and temperature graphs.

a) During which months is the soil most likely to be frozen?

b) During which months does the most precipitation occur?

c) During which months is snow most likely to fall?

d) During which times of the year is the soil likely to be the wettest?

e) During which months would it be most difficult to drive heavy machines on the land?

(4) Considering the Thiessens' crops, which of the following would be most likely to have a serious effect on their growth or harvesting? What would this effect be?

a) twice as much rainfall as usual in September

b) hailstorms in August

c) blizzards in December

d) frosts in late August

e) little rainfall in July and August

Climate and living conditions

(1) What type of clothing would the Thiessen family wear to do outdoor work in the following months?

a) January?

b) July?

(2) During what months of the year would a walk from the Thiessen house to the pig barn probably be most unpleasant?

(3) What work might the family do in order to prepare for the winter?

(4) How does this climate differ from the area in which you live?

Summary

The Thiessen farm changes in many ways from season to season.

A. Winter

Winter is a time the farmland is not used and when the Thiessen family spends most of the time inside heated buildings and vehicles. The winter months can be enjoyable, but they must be carefully prepared for. Preparations start early.

The first signs of winter come in late September. Usually the evenings become very cool. The leaves fall from the trees. The sun is noticeably lower in the sky and the days are shorter. This is a very busy time for the family. Often Mr. Thiessen and Donald must continue to work to market the calves and to harvest the crops while Dennis, Eleanor and Gerald help their mother prepare for the winter. Storm windows are placed on the house. Clothing for the winter is checked, repaired or replaced. The garden is cleared of vegetables. Vegetables are put in a cool storage place or carefully prepared and frozen in the family deep-freeze. Fruits are canned and stored. Mr. Thiessen or Donald prepare the truck and automobile for the cold weather. Strong antifreeze is placed in the radiators of the automobile and truck. Windows are often fitted out with transparent plastic shields that prevent frosting. The vehicles are taken to town for a thorough checking and servicing. Heavy-duty batteries, light winter oil, and snow tires are installed. A special heater that keeps the engine oil warm when the vehicles are not being used is installed.

In most years, the ground is frozen and covered with snow by early November. The fields are white and deserted, but the farmstead is a very busy place. In the early morning Mr. Thiessen and the boys dress warmly in hats that cover their ears, heavy coats, warm pants and heavy overshoes. The livestock are cared for while Mrs. Thiessen and Eleanor prepare breakfast. After breakfast the children rush from the warm farmhouse to a heated school bus. Mr. and Mrs. Thiessen spend a very active day on the farmstead. Mr. Thiessen is kept busy maintaining machinery or buildings, cleaning pens, preparing feed and caring for the animals. Much of the work is done in heated buildings. Some of it is done in the cold, but Mr. Thiessen dresses warmly and goes indoors often to warm up. With a big house and four children, Mrs. Thiessen is busy doing the work of a housewife.

The farmstead shows the signs of these activities. Often the white snow is marked by dozens of foot paths, piles of manure and the tracks of automobile and truck tires. A fresh snowfall may hide the signs, but the busy Thiessens soon make them again.

The winter is a time when much marketing is done. Livestock is taken to Winnipeg. Supplies are carefully selected and are usually bought in Steinbach. A trip to Steinbach is quite easy. The roads are rarely blocked by snow, although snow quite often falls. As a rule, the snow is quite light or powdery. It often blows off the roads. On a trip to town, Mr. Thiessen usually goes outdoors to warm up the car. The family then moves quickly and comfortably from the warm farmhouse to the warm car. The car takes only a few minutes to travel over hard and clear roads to park in front of heated buildings in Steinbach.

An occasional blizzard temporarily blocks the roads, but in all but the most unusual cases, the roads are cleared within a day. Do you know what the word *isolated* means? If you do not know, find the meaning of this word. Why could the Thiessen farm not be described as isolated?

B. Spring

Winter begins to break toward the end of April. April is not an enjoyable month. The first signs of spring make the winter unpleasant. It is often warm enough during the day for some of the snow to melt. The farmyard may be covered with slushy snow mixed with mud in the afternoons and by ice in the evenings. By the end of April most of the snow is gone and the frost is out of the ground. By early May Mr. Thiessen is usually on the land preparing the soil for seeding. Seeding is finished by the end of May most years. Also in May the car and truck are prepared for summer driving. The house is stripped of storm windows. By June the crops are above ground and growing fast. The growing season is short (110 to 125 days) and the crops must be ready for harvest by early September. June is a fine time of the year. Days are warm and evenings are cool. Everything is green. The mosquitoes are not yet out and it is a good time for working on the garden.

C. Summer and early Fall

The summer and early fall months are extremely busy. Mr. Thiessen is at work cultivating, spraying, haying, supervising work on the sugar beet fields, and preparing for the harvesting of the crops.

July and August are very hot months. From time to time a thunder shower cools the air. Mr. Thiessen is sometimes concerned about getting enough rain for the crops, particularly in July and August. In most years there is plenty of rainfall, but occasionally precipitation comes in the form of hail. Hot days are sometimes dangerous days. Tall clouds build up and drop pellets of ice on crops in southern Manitoba. This hasn't happened very often to Mr. Thiessen, but even an occasional hail storm could mean serious loss of money.

As in the winter months, the Thiessens must care for the livestock. The cows are turned out to pasture and require little care other than milking. The pigs must be cared for much as in the winter.

Late July and early August are the best time for a family holiday. Spraying and much of the cultivating are finished. Haying has been done. A neighbour takes care of the livestock and the family goes for a short holiday. Everyone appreciates the holiday very much. The busy fall and the cold winter are not far away.

The Thiessen house is different from most city homes in at least one important way. It has a very large kitchen. Such a large kitchen is very useful in several ways. The kitchen has been made so that it is easy to keep clean. Mrs. Thiessen serves meals to her family and working men in her kitchen. The working men often come from the barns or the fields and bring much dirt into the kitchen. Often Mrs. Thiessen must serve meals to

large numbers of working men. Also, Mrs. Thiessen preserves foods, prepares large meals and serves in her kitchen. She needs much space to do these things.

Eleanor often helps her mother. But like most girls her age she takes time to do her studies, to take music lessons and to play. She especially enjoys skating. For that reason she looks forward to the winter when she can skate in the open air skating rink in Steinbach.

Like her brothers she is interested in the farm. For Eleanor, the time of the year when the baby pigs are born is especially interesting. Figure 16 shows some baby pigs having a meal in the new Thiessen pig barn.

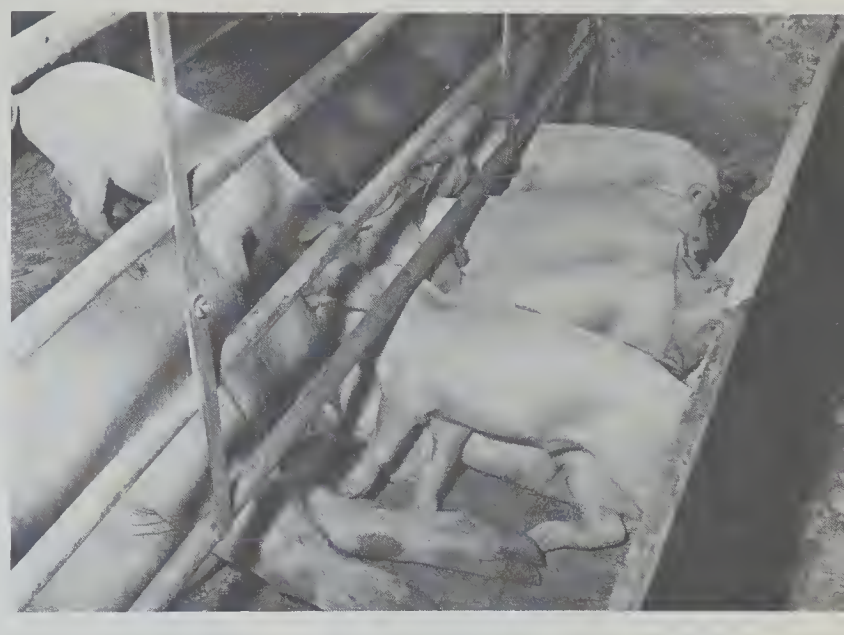


FIGURE 16.

Comparing the Thiessen farmstead to others

Diagrams 17, 18, 19, and 20 show four farmsteads that are different from the Thiessen farmstead. Each farmstead has been built to make the work on each farm easier and more efficient.

QUESTIONS:

Diagram 17 shows the farmstead of a mixed farm. You will remember that the Thiessen farm is a mixed farm as well.

(1) a) In what ways is the farmstead different from the Thiessen farmstead?

b) How is it the same?

(2) This is a mixed livestock and crop combination farm.

a) What livestock are raised on the farm?

b) What livestock products are sold?

c) What livestock are sold on the Thiessen farm that are not sold on this farm?

(3) Can you suggest whether or not this farm is larger or smaller in area than the Thiessen farm? Can you find evidence for an answer? Explain.

(4) What reasons would you list to explain why this farmstead is different from the Thiessen farmstead?

(5) How far is this farm from the nearest city?

IAGRAM 17.

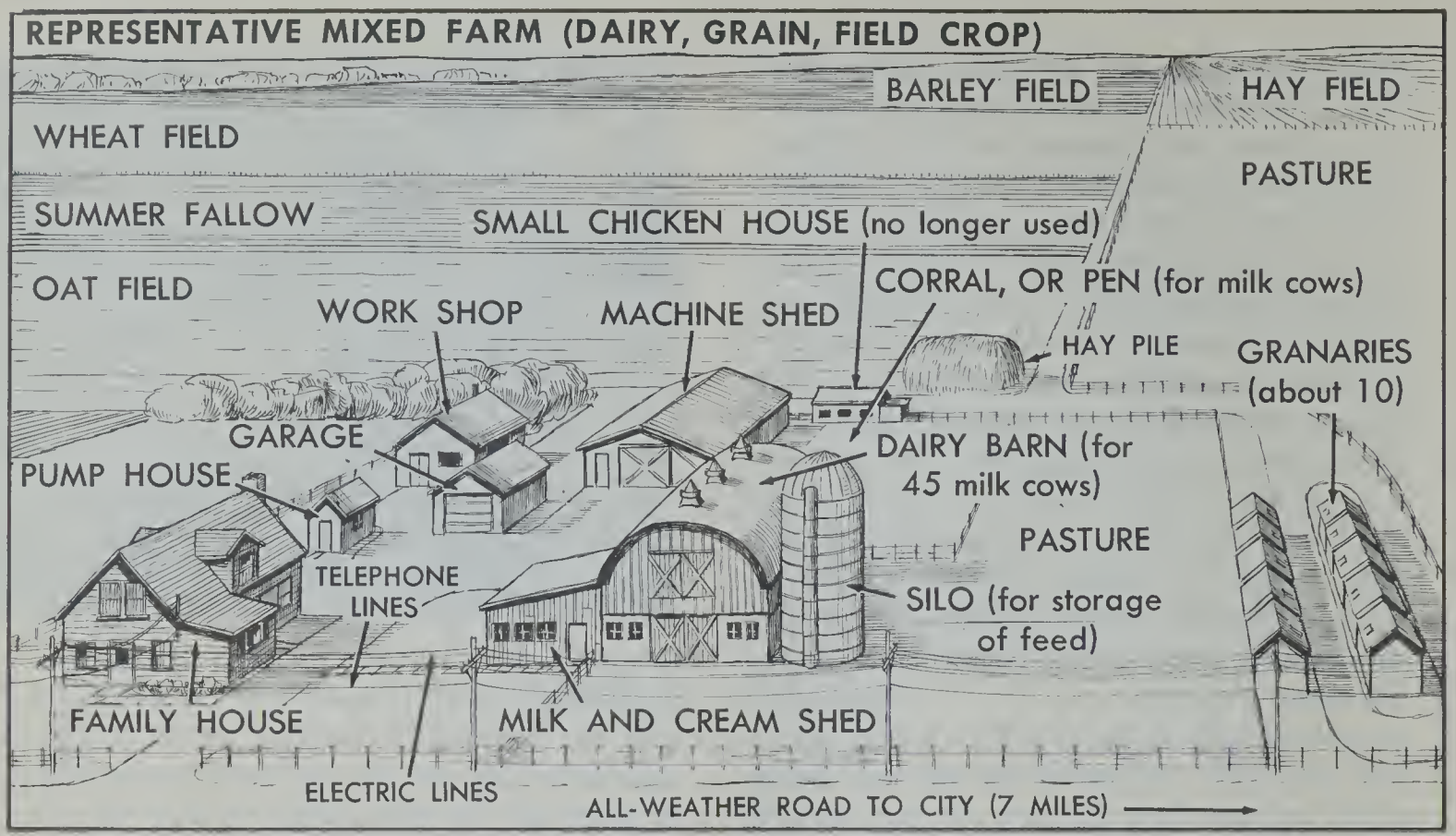


DIAGRAM 18.

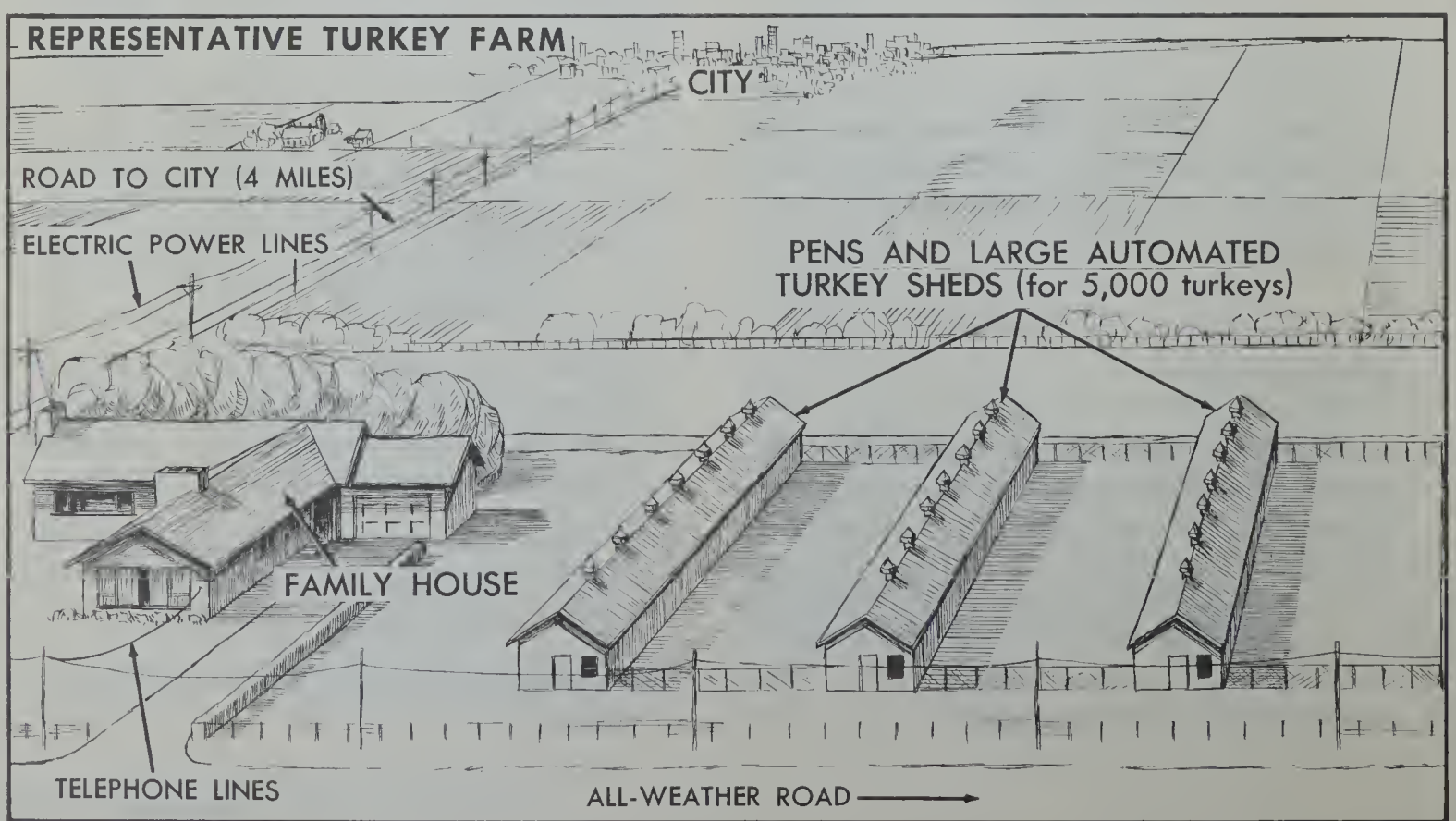


DIAGRAM 19.

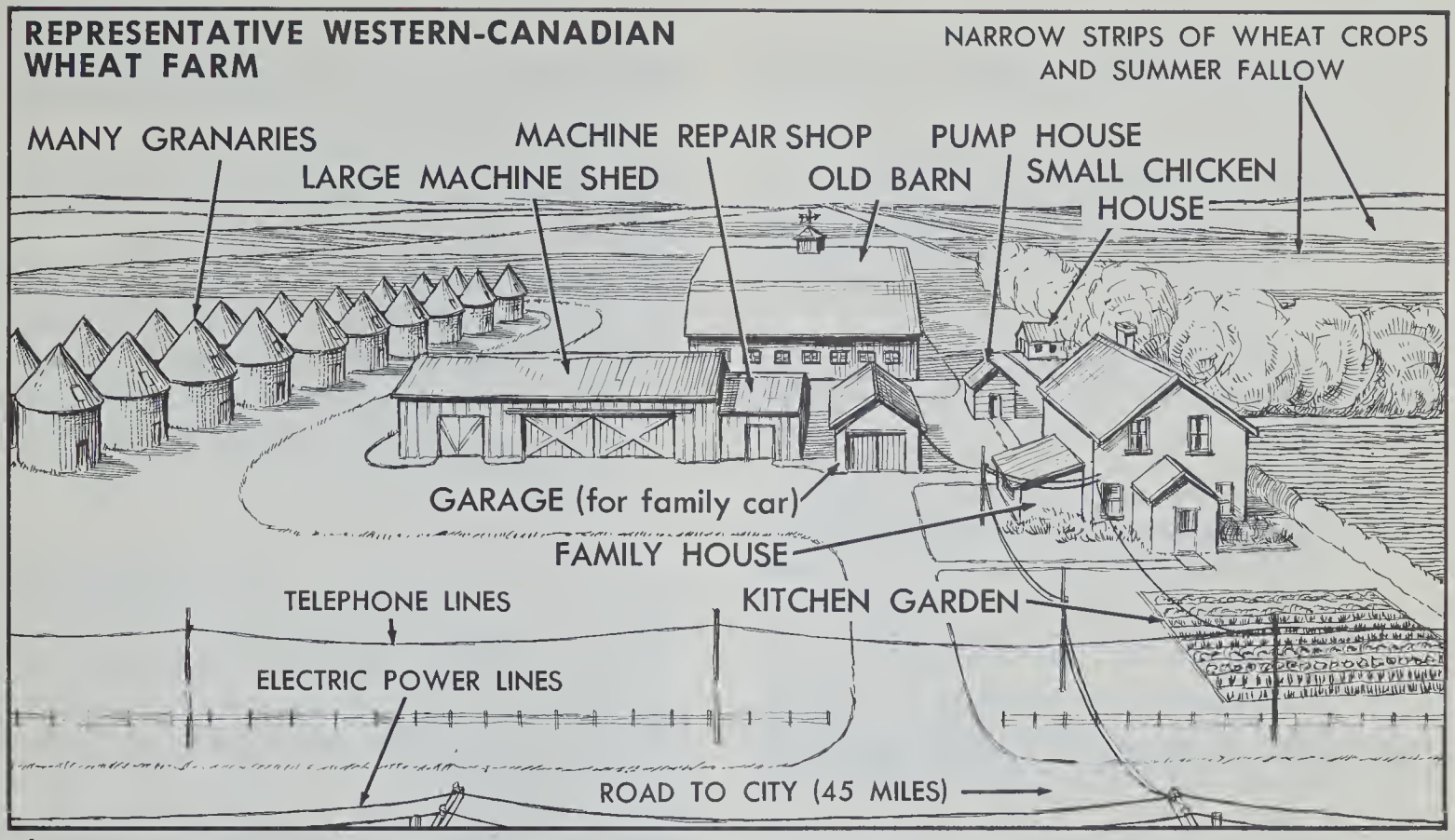
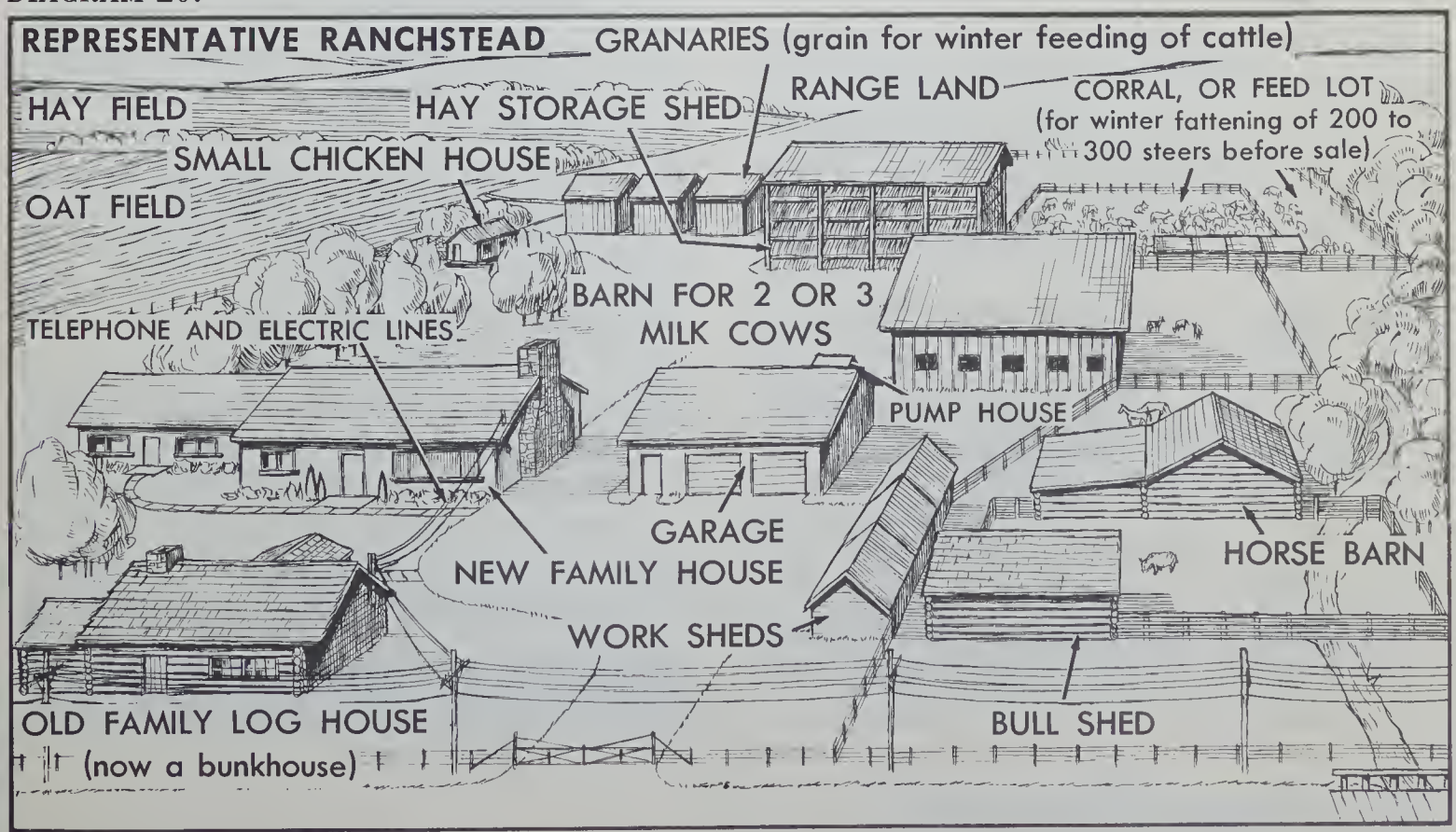


DIAGRAM 20.



(6) Why might such a farm be so close to a city?

Diagram 18 shows a turkey farm.

(1) a) In what ways is this farmstead different from the Thiessen farmstead?
b) How is it the same?

(2) What is the main product of this farm?

(3) The turkey sheds or barns are automated. What does *automated* mean? Use your dictionary. Ask your class to discuss the meaning of automation.

(4) The fence in the foreground and middleground of the picture is along the edge of this farm. How might the farmer make a living with so little land?

(5) How far is this farm from the nearest city?

(6) Why might such a farm be so close to the city?

Diagram 19 shows the farmstead of a wheat specialty farm. This means that the farmer has specialized in growing wheat.

(1) What does *specialized* mean? Use your dictionary.

(2) a) How is this farmstead different from the Thiessen farmstead?
b) How is it the same?

(3) What is the main product of this farm?

(4) What is produced on the Thiessen farm that is not produced on this farm?

(5) What are some of the reasons why this farmstead is different from the Thiessen farmstead?

(6) How far is this farm from the nearest city?

(7) Farms like this farm are located both close to the city and far from the city. What reasons would you give to explain why such a farm would not need to be as close to the city as a dairy farm or turkey farm?

Diagram 20 shows the ranchstead of a ranch. A *ranch* is one kind of livestock farm. Use your school library to find how a ranch differs from other kinds of livestock farms. Ask your class to discuss the difference between ranches and most livestock farms.

(1) a) How is the ranchstead different from the Thiessen farmstead?
b) How is it the same?

(2) What is produced on the Thiessen farm that is not produced on this ranch?

(3) What are some of the reasons why this ranchstead is different from the Thiessen farmstead?

(4) How far is this ranch from the nearest city?

(5) Ranches like this ranch are located both close to the city and far from the city. What reasons would you give to explain why such a farm would not need to be as close to the city as a dairy farm or a turkey farm?

To answer the following questions, use all four drawings.

(1) In what ways are the Thiessen farm and most of the farmsteads shown in the drawings the same?

(2) In what ways is the Thiessen farm representative of the farms shown in the drawings? Can you answer this question? Do you know what *representative* means? If you don't, leave this question until you have read the following summary.

Summary

A. What does Representative mean?

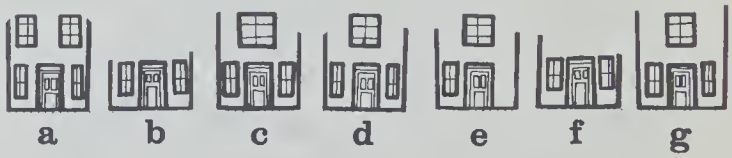
The farmsteads shown in the drawings (diagrams 17, 18, 19, and 20) are much like most western-Canadian farms of their type. For example, the mixed farm has buildings and a yard that are similar to most mixed farms that raise dairy cattle and grain crops. Many mixed dairy-grain farms would have different features, but the majority would be much like the farm shown in diagram 17. We could say that this farmstead is *roughly* or *approximately representative* of farms of this type. Have you read or heard the word *representative* before? Find a definition of this word. Discuss the meaning of *representative* with your class. Study the drawings below. Which house shown below is the most representative of all of the houses?

That is a difficult question isn't it? Remember: the most representative house will be most like the rest of the houses. Let's look at the separate parts of the houses, one at a time.

(1) *The roofs:*

That's right! The most representative roof is this type:

(2) *The windows and doors:*



(3) *The number of floors* in each house:

(4) *The chimneys*:

That's right. No chimney is representative. Each chimney is different, or unique.

(5) Now, which house has the most in common with the rest of the houses? (If you are right, the house that you have picked is the *most representative* house.)

Here are some other questions that could test your understanding of the meaning of representative.

(1) Which boy in your class is most representative of the *looks* (outward appearance) of all of the other boys in your class?

(2) Which house on your street is the *least representative* of most of the houses on your street? In other words, which house is most different? (Draw a picture of this house. Bring the picture to school. If you live on a farm, draw a picture of the house that is least representative of the houses on the road to school.)

(3) Draw a picture of a real or imaginary house that is representative of the houses on your street or road to school.

B. How is the Thiessen farmstead representative of most western-Canadian farmsteads?

The Thiessen farmstead is like most other western-Canadian farmsteads in many ways. For example, it has buildings that most western-Canadian farmsteads have: a family house, a pump house, a garage, a machine shed, a barn and a small chicken house.

Like most western-Canadian farmsteads, the Thiessen farm is located near an all-weather road. Also, the farm has electricity and a telephone as do most Canadian farms.

Most western-Canadian farmsteads have large yards. Large yards are useful because they allow farmers to separate the livestock buildings from the family house, and they provide plenty of room to store machinery. The size of the Thiessen farmyard is representative of most western-Canadian farmyards.

Have you found other ways in which the Thiessen farmstead is representative?

C. How is the Thiessen farmstead different from other western-Canadian farmsteads?

Mixed Farms: You will remember that mixed farms are farms on which most of the money is made from more than one product. Some western-Canadian mixed farmers make most of their money from the sale of cattle, grain and field crops.* Others make most of their money from the sale of pigs, grain and field crops. A few mixed farmers make most of their money from the sale of cattle, pigs, grain and field crops. The farm shown in diagram 17 is a dairy, grain, field crop mixed farm. The farmer makes most of his money from the sale of milk, cream and grain. On this farm the field crops are used to feed the cows.

The farmsteads of mixed farms usually show how the farmer makes his money. Each farmstead has buildings for the sheltering of crops or livestock. The farmstead in diagram 17 shows that the farmer raises many dairy cattle and large grain crops. The Thiessen farmstead has a large pig barn, a small cattle and hay barn and several graneries. Of which of

*Field crops, other than grain crops, include such crops as hay and sugar beets.

the following mixed farm types is the Thiessen farmstead most representative?

a) dairy, grain and field crops
b) pigs, grain and field crops
c) cattle, grain and field crops
d) sheep, grain and field crops

The dairy farm is located close to the city so that the farmer can transport milk to a large market speedily and at little cost.

Farms that Specialize in One Product: Diagrams 18, 19, and 20 show the farmsteads of farms that specialize in the production of one kind of crop or animal.

Diagram 18 shows the farmstead of a turkey farm. This farm is very specialized. It only raises turkeys. It is close to the city where a large market for turkeys exists. The farm is quite new and the farm house is modern. The only farm buildings are the turkey sheds. These sheds have been skillfully made to help the farmer do his work. They contain many tools that are designed to feed the turkeys and clean the pens.

The farmer owns very little land. He does not produce crops for sale. This farmstead is *very different* from the Thiessen farm.

Diagram 19 shows the farmstead of a farm that specializes in the production of wheat. This farm is like the Thiessen farm in several ways. It has many of the same kind of buildings, a similar yard, a garden and a windbreak of trees.

The most important difference between this farm and the Thiessen farm is the emphasis upon wheat. This farmer does not raise livestock. The farmstead cattle barn is unused and there is no pig barn.

This wheat farm is located far from the city. Wheat will not spoil in a short time as will milk. It is not as expensive to ship as are turkeys. Wheat may be sold to other countries as well as the closest city. For these and other reasons wheat farms are not always located close to large cities.

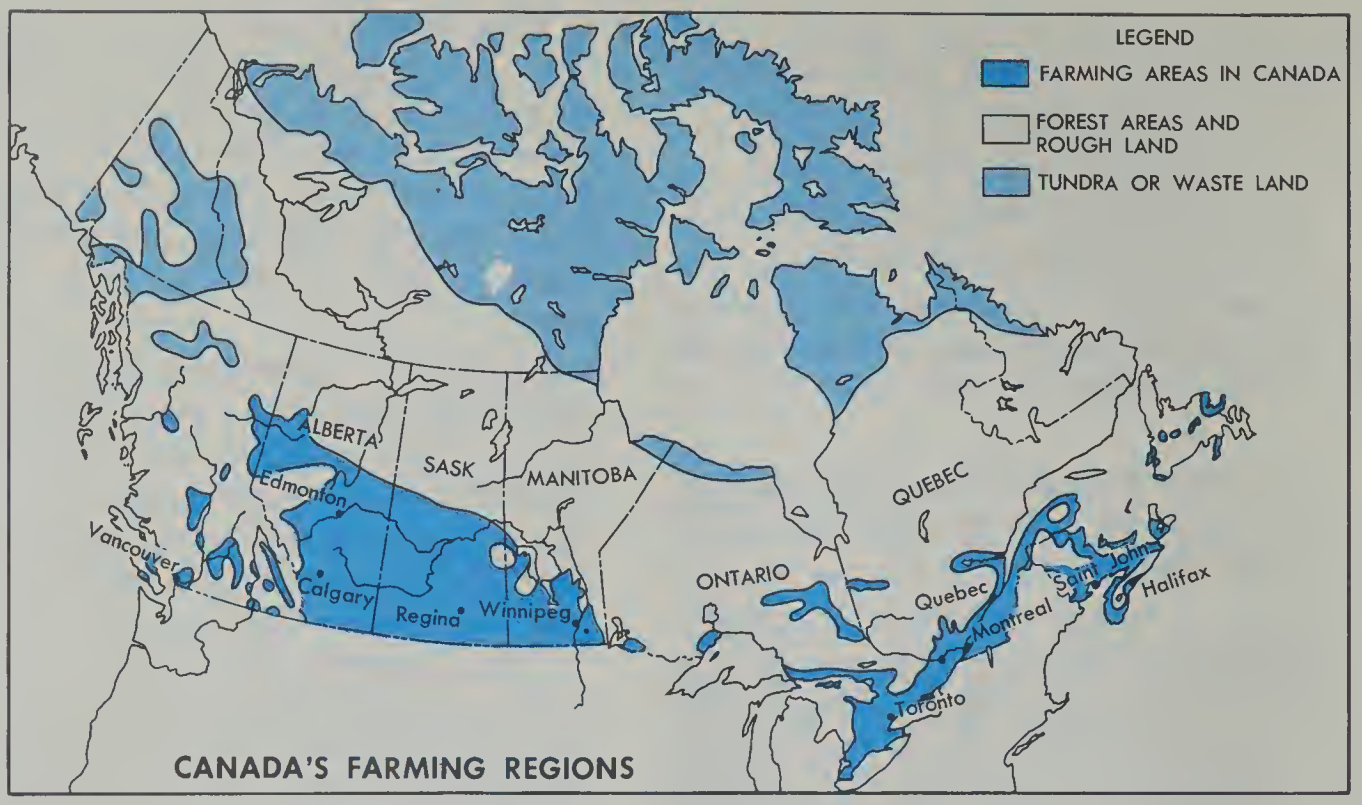
Diagram 20 shows the ranchstead of a cattle ranch. A ranch is a special kind of livestock farm. Livestock farmers plant grasses to make pasture lands. Ranchers use natural grasses that grow on cool, rough or dry lands for pasture lands. Natural pasture lands are called *range.*

The Thiessen farmstead has many buildings that are similar to the buildings on the ranchstead. But the ranchstead is different from the Thiessen farm and most farms in several ways. It has a bunkhouse to provide a living place for men who have been hired to work on the ranch. The bull shed and horse barn shelter animals that are found on ranches. Large corrals and hay sheds show that large numbers of cattle are fed on the ranch.

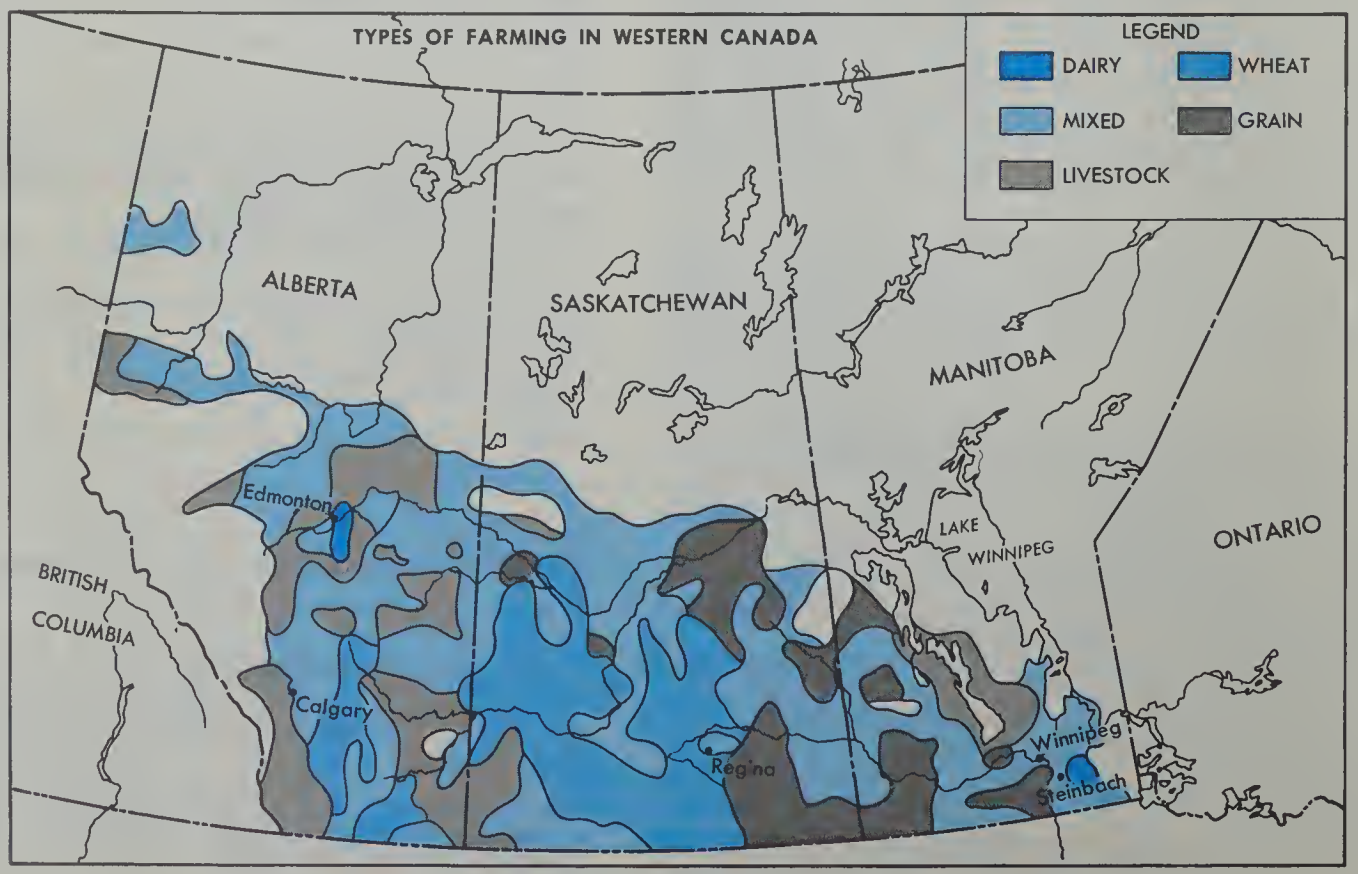
Ranches can be built far from the city. Large cattle trucks can carry cattle over long distances. Could a pig farm be located this far from the city?

Farming regions in Canada

Canada's farming region is the part of Canada in which farms are found. The map called *Canada's Farming Regions* shows this area. The map called *Types of Farming* shows many smaller regions.



CANADA'S FARMING REGIONS



Each smaller region is an area in which one type of farming is the most common. Do you know what a *region* is? Can you give examples of regions that are not farming regions? Ask your teacher to help you find out what a region is.

QUESTIONS:

(1) What are the three regions marked on the map of Canada's farming regions?

(2) Which region covers the largest area?

(3) In which part of Canada is most of the farming region located?

a) the northern part
b) the eastern part
c) the southern part
d) the western part

(4) About what fraction of Canada is covered by the farming regions?

a) three quarters
b) one third
c) one half
d) one fifth

(5) What reasons would you suggest to explain why Canada's farming region is located where it is?

On the map of types of farming, a) count the number of separate areas in each of the smaller regions listed below, and b) list the provinces in which the region is found. (Put your answers on a chart like the one below.)

(1) Which province does not have a large area of specialized wheat farms?

(2) In which farming region is the Thiessen farm located?

(3) Which farming region covers more of Canada than any other farming region?

(4) Which farming region covers more of Manitoba than any other region?

REGION	NUMBER OF SEPARATE AREAS	PROVINCES
i) Dairy farming (areas in which most of the farms are dairy farms)		
ii) Mixed farming (areas in which most of the farms are mixed farms)		
iii) Livestock farming (areas in which most of the farms are livestock farms)		
iv) Wheat farming (areas in which most of the farms are wheat farms)		
v) Grain farming (areas in which most of the farms are grain farms)		

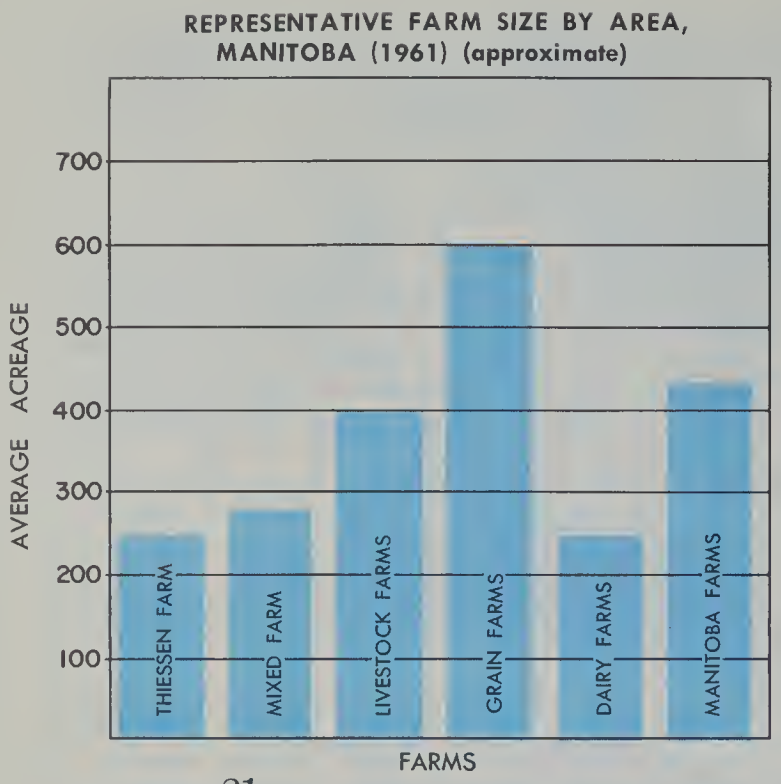


DIAGRAM 21

Comparing the Thiessen farm with other farms

Diagram 21 shows the representative size, by area, of the main types of farms in Manitoba as well as the size, by area, of the Thiessen farm. Diagram 22 shows three important trends in livestock farming in Manitoba.

QUESTIONS:

The following questions can be answered by studying diagram 21.

(1) a) About how many acres does a representative mixed farm contain?
b) A representative livestock farm?
c) A representative grain farm?
d) A representative dairy farm?
e) A representative Manitoba farm?

(2) Which type of farm is usually larger than other Manitoba farms?

(3) Which type of farm is usually smaller than other Manitoba farms?

(4) How many acres does the Thiessen mixed farm contain?

(5) Is the size by area of the Thiessen farm representative of mixed farms in Manitoba?

(6) Which sentence is correct?
a) The size by area of the Thiessen farm is representative of mixed farms in Manitoba.
b) The size by area of the Thiessen farm is far from representative of mixed farms in Manitoba.
c) The size by area of the Thiessen farm is close to being representative of mixed farms in Manitoba.

(7) Is the size by area of the Thiessen farm representative of Manitoba farms?

Do you know what a *trend* is? A few years ago, boys began to grow long hair. We call this change to long hair a trend when more and more boys begin to grow their hair long. Trends also happen on farms. After the first tractor was sold to a farmer in Manitoba, a trend started toward the buying of tractors. List three other trends.

(1) The graph in diagram 22 shows trends in the number of cattle, horses and pigs on Manitoba farms.
   a) About how many cattle did Manitoba farmers own in 1880?
   b) in 1900? d) in 1940?
   c) in 1920? e) in 1960?

(2) Which sentence best describes the trend in cattle farming in Manitoba since 1880?
   a) The trend is toward the production of more cattle.
   b) The trend is for cattle production to stay the same.
   c) The trend is toward the production of fewer cattle.

(3) What has been the trend in pig production since 1940?

(4) What has been the trend in horses kept on farms since 1920?

(5) What may have happened in the 1920's that would explain the change in the trend in horses kept on farms?

(6) Mr. Thiessen raises many pigs. He has increased the number of pigs raised on his farm. He plans to raise fewer cattle and more pigs in the future. Is Mr. Thiessen's farm representative of livestock trends on most farms in Manitoba? Explain your answer.

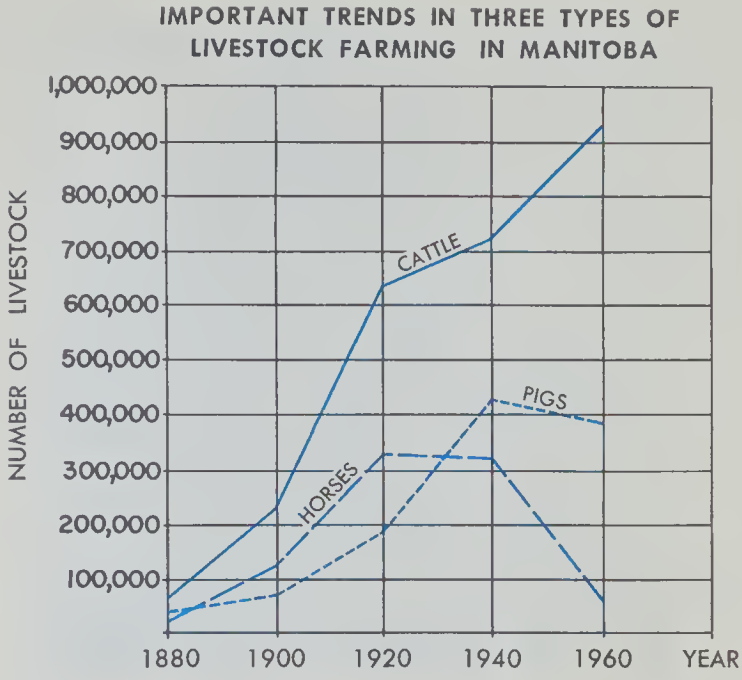


DIAGRAM 22

Summary

The answers to many of the questions that you have considered were given in a final interview with Mr. Thiessen and Mr. Johnson. Mr. Johnson is a specialist who studies the business of farming for the government of Manitoba. Study this interview carefully. (The wording of many sentences has been changed to make the interview easier to understand.) A group could prepare a tape recording for the class.

Mr. Thiessen must do his chores each day. He continued to work during part of this interview.

Question: I am going to ask some questions about how representative or typical the Thiessen farm is. Your answers will help boys and girls to understand how other Manitoba farms are different from Mr. Thiessen's farm. I will ask Mr. Thiessen the first question. How is your

FIGURE 17.

Mr. Thiessen feeding a special feed mixture to his pigs.

farm different from most farms in Manitoba?

Mr. Thiessen's Answer: Well, first of all, it's smaller in area. And that's important. It's much harder to make a living on a small farm. Isn't that right, Mr. Johnson?

Mr. Johnson's Answer: It sure is! Your farm is a bit smaller than most mixed farms. As you know, people who run small farms must plan very carefully and work very hard to make enough money to buy the things they need.

Mr. Thiessen's Answer: And I suppose my farm is different from most because I raise a lot of pigs. What's more, I plan to raise even more pigs in the next few years. I think that pigs are the best way of making enough money on my small farm. I can produce enough pig feed in my grain and field crops to feed a lot of pigs.

Question: Do you mean that most Manitoba farmers don't raise pigs?

Mr. Johnson's Answer: That's right. While a lot of farmers have pig farms, the majority do not raise pigs. I suppose that there are several reasons for this. Pig prices have changed a lot in the last few years. Farmers haven't known when prices would go up or down. Also, it isn't easy to take care of pigs. For example, unless farmers build modern pig barns it is very hard and unpleasant work to keep pig pens clean. And it costs quite a lot of money to build modern pig barns. Most mixed farmers have decided to raise cattle rather than pigs. They believe that cattle are easier to care for and that they bring better profits. But that isn't always true.

Question: In what other ways is the Thiessen farm different from most Manitoba farms?

Mr. Thiessen's Answer: I don't raise enough wheat for my farm to be like most farms. Wheat is still the biggest crop produced in Manitoba.

Mr. Johnson's Answer: That's right. The figures show that. Have you seen the reports? This table was taken from the *Yearbook of Manitoba Agriculture for 1965**. [Study the table to compare the acres of wheatland to the acres planted in other crops.]

*Manitoba Department of Agriculture and Conservation, *Yearbook of Manitoba Agriculture 1965* (Winnipeg: 1965).

1965 Summary of Production					
CROP	ACRES	YIELD PER ACRE (bushels)	PRODUCTION (bushels)	FARM VALUE PRICE (bushel)	FARM VALUE TOTAL ($000)
Wheat	3,240,000	25.6	83,000,000	1.60	132,800
Oats	1,525,000	48.5	74,000,000	.65	48,100
Barley	601,000	36.6	22,000,000	1.10	24,200
Flax	1,160,000	11.6	13,500,000	2.70	36,450
Rye	151,000	22.5	3,400,000	1.00	3,400
Mixed Grains	146,000	41.1	6,000,000	.85	5,100
Grain Corn	12,000	25.0	300,000	1.25	375
Field Peas	36,000	22.2	800,000	1.80	1,440
Buckwheat	20,000	10.0	200,000	1.00	200
Potatoes	26,500	195.0	5,167,000	.88	4,547
Rapeseed	145,000	17.9	2,600,000	2.50	6,500
		(pounds)	(pounds)	(pounds)	
Sunflowers	48,000	550	26,400,000	.0575	1,518
Mustard Seed	19,000	850	16,150,000	.05	808
Forage Seeds	60,000	—	12,780,000	—	2,162
		(tons)	(tons)	(tons)	
Tame Hay	1,090,000	1.70	1,850,000	20.00	37,000
Silage Corn	53,000	5.96	316,000	7.00	2,212
Sugar Beets	27,000	10.00	270,000	15.50	4,185
Horticultural Crops:					
Vegetables	7,000	—	—	—	4,486
Other	—	—	—	—	4,375
	8,366,500				$319,858

Question: Are there other ways in which this farm is different from most Manitoba farms?

Mr. Johnson's Answer: Yes, I think it is different in at least one other way. Mr. Thiessen has a small farm, but he produces a lot of pigs, grain and sugar beets. He works hard and plans carefully to produce more than many farmers would on the same land. He keeps his soil in good condition by using a lot of fertilizer. Because he produces a bit more on his land than most farmers, I would say his farming is a bit more intensive than most.

[Do you know what *intensive* means? Ask your teacher to discuss the meaning of the word with your class. Compare farming operations that are less intensive to farming operations that are more intensive.

Figure 18 shows the Thiessen kitchen garden. A great deal of food is produced on a very small area. Compare this area to a similar small area of range land on a ranch. A similar small area of range land would feed a cow for only a very short time. Which is an example of more intensive land use: the kitchen garden or the small area of range land?]

Mr. Thiessen's Answer: I have just thought of something else. I should mention that there is another way in which my farm is different from most farms in Manitoba. I grow sugar beets. If

FIGURE 18. The Thiessen family's garden.

you were to look at numbers showing the area of land used to grow sugar beets, you would find that it is only a small part of the farmland of Manitoba.

[Check the table. Is what Mr. Thiessen said true for 1965?]

In what ways is the Thiessen farm representative?

Question: Now let me change my line of questioning. How is the Thiessen farm representative?

Mr. Johnson's Answer: Be careful! The answer to your question depends upon what you mean by representative. If you mean representative of work or industry in Canada, this farm is not representative. Probably less than one third of the people in Canada work on farms. A little less than one sixth of the area of Canada is used for farming. Most of Canada has soils that are too thin or lacking plant food, or too short a growing season for the growing of most crops.

Question: I should have asked: How is the Thiessen farm representative of farming in western Canada?

Mr. Johnson's Answer: That is a better question. I think that the Thiessen farm is representative of most farms in Canada in the way that it has changed. It has changed in four important ways. Mr. Thiessen has increased the size of his farm, has increased the number of livestock that he raises, and he has made his farm more mechanized and specialized.

Question: Have you increased the size of your farm a great deal, Mr. Thiessen?

Mr. Thiessen's Answer: Yes. It was a lot smaller when I started farming. Over the last few years, I have been able to buy more land. But my farm still isn't as big as it should be. Most modern farms are a lot bigger than they used to be. Such things as supplies and labour are so expensive that you need a lot of land to produce enough to pay for them.

Question: In what way have you increased the number of livestock that you raise?

Mr. Thiessen's Answer: I am raising more pigs. As you know, I have just built a big modern pig barn. Also, next year I plan to increase the number of pigs that I will raise.

Question: How have you made your farm more mechanized?

Mr. Thiessen's Answer: I am using more machines. These machines help to do more of the farm work. For example, my hay baler has made haying an easier job. I used to hire men to help with the haying. Now my sons and I can do it. Another example is the sugar beet harvester. It does the work of dozens of men.

Question: How has your farm operation become more specialized?

Mr. Thiessen's Answer: I am trying to specialize in the raising of pigs and a few crops. I used to raise a few pigs, a few calves, a few chickens and a lot of different crops. Instead of having a good mixed farm, I had a mixed-up farm.

I believe that if I specialize I will be able to make more money. For example, much of my land is good for sugar beet growing. If I grow more sugar beets, I will be able to use my sugar beet harvester more often. I will get more use out of that machine. I will not grow some of the crops that I used to grow and I will be able to sell some of my other machines. Also, I will be able to spend more time finding out about the best ways to grow and sell sugar beets. The same is true of my plan to sell more pigs.

Question: What is your overall plan?

Mr. Thiessen's Answer: I am planning to specialize in raising pigs, sugar beets, and a few grain crops and hay.

Question: Will you stay with this plan for sure?

Mr. Thiessen's Answer: No, not for sure. If the price for pigs drops badly, I may have to raise more cattle. The same is true of sugar beets. I don't think that the prices of pigs or sugar beets will drop badly, but if they do I will have to change my plans.

Question: In what ways is the farm representative of farms in western Canada?

Mr. Johnson's Answer: First, it is a mixed farm: mixed farms are the most common type of farms in western Canada. Second, Mr. Thiessen is planning how to run his farm more carefully than he used to. He is attending conferences on farm planning and is keeping careful records of what he plants and sells. He is running his farm more like a big business.

Question: In what ways is the Thiessen farm representative of farms in Manitoba?

Mr. Johnson's Answer: First, it is quite representative of mixed farms in southern Manitoba. The farm is only a little smaller than most mixed farms. As Mr. Thiessen mentioned before, the main way in which it is different is that Mr. Thiessen raises pigs, while most Manitoba mixed farmers raise cattle. Second, it is representative of farms on sandy loam soils. Most farmers on sandy loam soils grow sugar beets. Third, the climate and land are like much of the rest of southern Manitoba. There is plenty of rainfall for the growing of grain or field crops. The land is very flat. Water stays on the surface of the land and must be drained off.

Question: What will happen to the Thiessen farm in the future?

Mr. Thiessen's Answer: That is a difficult question to answer. I don't *know*

FIGURE 19.

the answer for sure. I hope that the farm will continue to do well. I hope that one of my sons will take it over and make it a more efficient and perhaps a bigger farm. Donald knows the farming business well, but he isn't sure about what he will do when he leaves school. He may go to work in the city. Dennis and Gerald are very interested in farming. Both of them are eager to help me with the farm work. Gerald is especially interested in learning to drive the tractor. Perhaps one of them will take over the farm. (Our last photograph shows Dennis and Gerald on the tractor.)

But I know one thing for sure. This is good farmland. Whoever takes over the farm will produce a lot of food. In a few years it will probably produce more than it does now. I suppose that is the most important thing. Still, I hope that the farm will be run by one of my sons.

Summary

(1) Make a chart to summarize the ways in which the Thiessen farm is representative of farming in Canada. Use the following headings:
   a) How is the Thiessen Farm Representative of the Canadian Farming Region?
   b) How is the Thiessen Farm Representative of the Western-Canadian Mixed Farming Region?
   c) How is the Thiessen Farm Representative of the Southern Manitoba Farming Region?

PROJECT IV

If possible, take a field trip to study a mixed farm. Try to pick a type of mixed farm different from the Thiessen farm so that you can compare two types of mixed farming. Perhaps you can stop briefly along the way to see the operation of a modern pig barn. Before you go, carefully plan what you must find out. Use the information that you have found out about the Thiessen farm to get ideas about the questions that you will ask. Make a chart like diagram 16 for a farm visited in a field trip. Compare this chart to diagram 16. How do the farms differ? How are they alike? Explain why they differ.

PROJECT V

If possible, make a model of an actual mixed farm. Try to make the model as representative of the farm as possible.

Date Due

NOV 30 RETURN

EDUC FE 11 '74

FEB - 7 RETURN

EDUC MAR 22 '74

MAR 15 RETURN

EDUC MR 29 '74

EDUC AP 12 '74

APR 3 RETURN

EDUC NO 4 '74

OCT 31 RETURN

NOV 7 RETURN

EDUC MR 12 '75

MAR 6 RETURN

EDUC JL 16 '75

JUL 16 RETURN

EDUC FE 5 '76

FEB 5 RETURN

EDUC OC - 6 '76

SEP 28 RETURN

EDUC MR 16 '77

MAR 17 RETURN

DUE Educ APR 4'78

APR - 6 RETURN

DUE Educ JUN 8'78

RETURNED JUN 9 '78

DUE Educ OCT 27'78

RETURNED SEP 23'78

EDUC OC 23 '79

OCT 19 RETURN

1154

DUE EDUC MAR 30'82

FEB 19 RETURN

EDUC AL 2'82

APR 14 RETURN

DUE EDUC FEB 17'85

FEB 12 RETURN

EDUC FEB 06'94

RETURN FEB 06 '94

FC 75 M82 BK-008
DE LEEUW GARY 1935-
MANITOBA LOWLANDS

39536542 CURR

000010423366

EDUCATION
CURRICULUM

887146

F
5022
M82
v.5

Moore, E.
[Sample studies of
... an inductive...

CURRICULUM
EDUCATION LIBRARY

A47117

Holt, Rinehart and Winston
of Canada, Limited

Toronto : Montreal